

174



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# THE FLOWERING PLANTS OF SOUTH AFRICA.

A MAGAZINE CONTAINING HAND-COLOURED FIGURES WITH DESCRIPTIONS OF THE  
FLOWERING PLANTS INDIGENOUS TO SOUTH AFRICA.

EDITED BY

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VOL. XIII.



The veld which lies so desolate and bare  
Will blossom into cities white and fair,  
And pinnacles will pierce the desert air,  
And sparkle in the sun.

R. C. MACPHEE'S "EX UNITATE VIRES."

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AS A SMALL TOKEN OF APPRECIATION OF HIS  
SERVICES TO BOTANICAL SCIENCE IN AFRICA  
THIS VOLUME IS GRATEFULLY DEDICATED

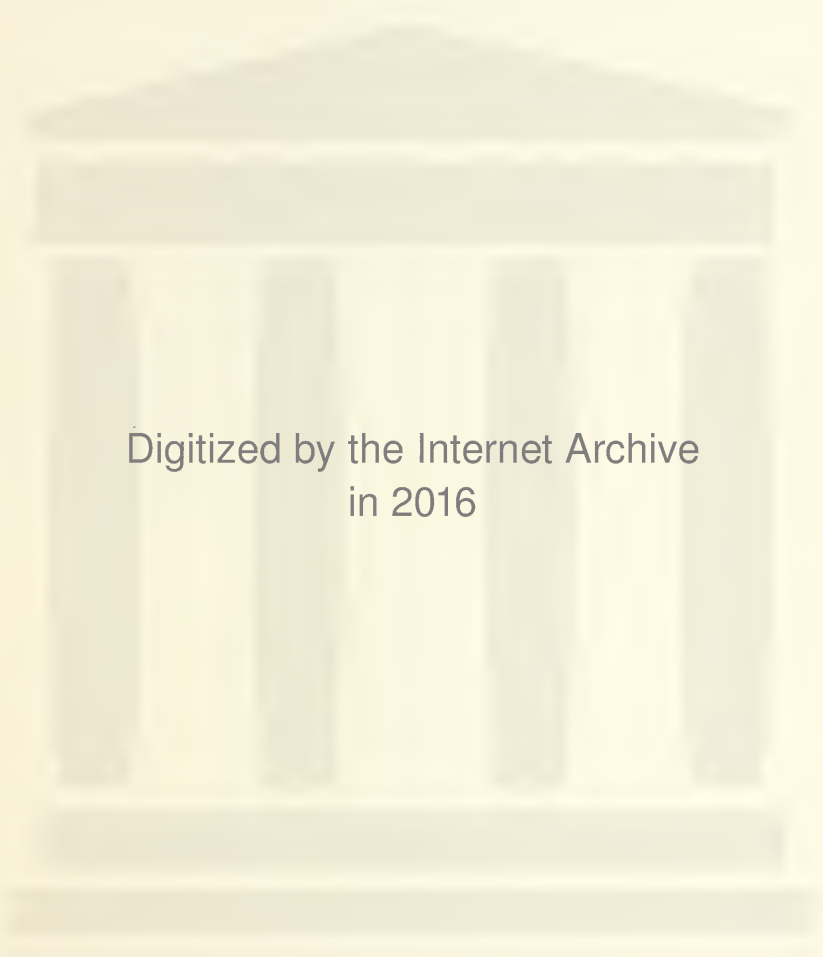
TO  
ERNEST E. GALPIN, ESQ., F.L.S.  
OF MOSDENE, NABOOMSPRUIT, TRANSVAAL,

A LOVER OF PLANTS AND APTLY DESCRIBED  
AS THE PRINCE OF SOUTH AFRICAN COL-  
LECTORS, WHOSE REMARKABLE KEENNESS  
AND ENTHUSIASM HAVE BEEN RESPONSIBLE  
FOR ADDING CONSIDERABLY TO THE KNOW-  
LEDGE OF OUR FLORA, AND TO WHOSE  
GENEROSITY AS A COLLECTOR THE NATIONAL  
HERBARIUM AT PRETORIA AND OTHER SOUTH  
AFRICAN HERBARIA ARE DEEPLY INDEBTED.

DIVISION OF PLANT INDUSTRY, PRETORIA.

*September, 1933.*





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PLATE 481.

SERRURIA FLORIDA.

*Cape Province.*

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PROTEACEAE. Tribe PROTEEAE.

SERRURIA, *Salisb.*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 170.

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**Surruria florida**, *Knight*, *Prot.* 92; *Fl. Cap.* vol. v. sect. i, p. 678.

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This species of *Serruria* has always been regarded as the most beautiful in the genus, and justly so, as the "flowers" are certainly extremely handsome. The plant was first found by Thunberg in the mountains round Franschhoek, and was then lost sight of for about 100 years, when it was re-collected by the late Prof. P. MacOwan. While the inflorescence is so striking, the plant itself is rather disappointing, as it is a lanky shrub up to 12 ft. high and not at all pleasing in shape. *Serruria florida* is known as the "Blushing Bride" or the "Trots van Franschhoek." On account of the very restricted distribution of the species, a few years ago there was much concern about the danger of its becoming extinct owing to mountain fires. But recently it has been successfully cultivated at the National Botanic Gardens, Kirstenbosch, and there attracts special attention when in flower. We are indebted to Mrs. J. C. Letty for specimens which she sent from Franschhoek and from which our Plate was prepared.

DESCRIPTION:—A tall lax shrub. *Branches* yellow, red in patches, glabrous. *Leaves* about 10 cm. long, pinnately and bipinnately divided from 1–2 cm. above the base, glabrous; ultimate branches channelled on the inner face, acutely mucronate. *Heads* peduncled, solitary or 2–4 in a sub-corymb at the ends of the branches. *Peduncles* up to 5 cm. long, with a few linear-lanceolate bracts up to 1·5 cm. long, glabrous. *Bracts* whitish, flushed with pink, surrounding the inflorescence up to 3·5 cm. long, and 1·2 cm. broad, oblong-elliptic, acuminate, overtopping the flowers. *Floral*

*bracts* 2 cm. long, 4 mm. broad, linear-lanceolate, tapering to a long acuminate point, long white-villous on the lower half on back, long ciliate. *Calyx-tube* 2 mm. long, glabrous; segments 6 mm. long, glabrous; limb 3 mm. long, oblong-linear, thinly villous with long hairs; the posticous limb with a few short hairs. *Anthers* 2 mm. long. *Ovary* villous, surrounded by long hairs; style 8 mm. long, with a globose swelling at the base, glabrous. (National Herbarium, Pretoria, No. 10,854.)

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PLATE 481.—Fig. 1, longitudinal section through inflorescence; Fig. 2, a flower with its subtending bract; Fig. 3, pistil; Fig 4, limb of calyx showing stamen.

F.P.S.A., 1933.





PLATE 482.  
SERRURIA ROSEA.  
*Cape Province.*

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PROTEACEAE. Tribe PROTEEAE.

SERRURIA, *Salisb. ; Benth. et Hook. f. Gen. Plant*, vol. iii. p. 170.

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**Serruria rosea**, *Phillips*, sp. nov., a *S. florida*, Knight, bracteis differt.

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*Frutex. Rami* glabri. *Folia* 3-6 mm. longa, bipinnata; segmenta c. 1 cm. longa, mucronata. *Capitula* pedunculata, 4-6, apice ramorum conferta. *Bracteae* c. 2.5 cm. longae, ovatae, apice acutae, glabrae; bracteae floris 1 cm. longae, lanceolatae, acuminatae, villosae. *Calycis tubus* 3 mm. longus, glaber; laminae 1 cm. longae, infra glabrae, supra villosae; limbus villosus. *Ovarium* villosum; stylus 1 cm. longus, glaber.

CAPE PROVINCE:—Malmesbury distr.: In fields near Hopefield, *Letty* 94 and in *National Herbarium*, 12,940; Paarl distr.: Franschhoek, Oct. *Marloth* 7517; roadside near Franschhoek, *Letty* 56 and in *National Herbarium*, 12,941; Worcester distr.: from the Caledon Show, collected between Worcester and Villiersdorp. Donated by Mr. T. P. Stokoe in *National Herbarium*, 10,859 (type).

---

It seems surprising that this handsome species of *Surruria*, which grows in frequented localities, should have remained unknown for so long. The first record we have is a specimen collected by the late Dr. R. Marloth at Franschhoek in October 1916. Mr. T. P. Stokoe sent us specimens from the Caledon Wild Flower Show in September 1931, and Mrs. J. C. Letty collected specimens both at Franschhoek and at Hopefield in the Malmesbury district.

The species is closely allied to *Surruria florida*, which is figured in Plate 481, but differs in having rosy bracts surrounding the inflorescence, and the bracts subtending the flowers are not produced into long acuminate tips which much overtop the flowers.

The specific name has been chosen on account of the rosy bracts.

Our illustration was prepared from a specimen sent by Mr. T. P. Stokoe, which has been made the type of the species.

DESCRIPTION :—*Branches* yellow stained with brilliant red, terete, glabrous. *Leaves* 3–6 cm. long, bipinnately divided in the uppermost  $\frac{3}{4}$ , glabrous; ultimate segments about 1 cm. long, terete, acutely mucronate. *Heads* peduncled, 2–2.5 cm. long, 2–3 cm. in diam., 4–9, arranged in a sub-corymb at the ends of the branches. *Peduncles* with a few scattered ovate-lanceolate acuminate bracts, glabrous. *Bracts* surrounding the inflorescence 1.5–2.5 cm. long, 0.6–1.4 cm. broad, ovate to lanceolate, acuminate, more or less pustulate on the back. *Floral-bracts* pink, 1 cm. long, lanceolate, acuminate, densely white-villous. *Calyx-tube* 3 mm. long, surrounded by a dense mass of long white hairs, glabrous; segments 1 cm. long, villous on the uppermost portion, otherwise glabrous; limb 2.5 mm. long, oblong-elliptic, with the posticous one sparsely villous and the other three densely long-villous. *Anthers* 2 mm. long. *Ovary* villous; style 1 cm. long, glabrous; *Hypogynous scales* 3 mm. long.

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PLATE 482.—Fig. 1, longitudinal section of head; Fig. 2, flower-bud with subtending bract; Fig. 3, back view of floral bract; Fig. 4, open flower; Fig. 5, pistil; Fig. 6, limb of calyx; Fig. 7, limb of calyx showing stamen.

F.P.S.A., 1933.





## HELICHRYSUM SUMMO-MONTANUM

*Transvaal.*

COMPOSITAE. Tribe INULOIDEAE.

*HELICHRYSUM*, Gaertn. ; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 309.

***Helichrysum summo-montanum***, Verdoorn, sp. nov., affinis *H. adencarpo* sed suffrutico, caule lignoso crasso, ramis apice copiose foliosis, foliis 3-nervis et valde reflexis differt.

*Suffrutex* circiter 1 m. altus. *Caules* 2.5 cm. diam., crassi, lignosi, apice ramosi; rami apice 3-ramosi et in capitulis terminati. *Folia* 3 cm. longa, 1.5 cm. lata, oblonga, valde reflexa, apicibus recurvis, infra dense tomentosa, supra glanduloso-pubescentia. *Capitulum* 2 cm. longum. *Bractae*  $\infty$ -seriatae, nitidae, albo-roseae. *Receptaculum* nudum. *Flores* parvi, numerosi, virido-flavi. *Pappi setae* paucae, glandulosae.

TRANSVAAL: Pilgrim's Rest distr.: Mount Anderson, near Sabie, June 1932, Smuts 44 and in *National Herbarium*, 12,942.

The species of *Helichrysum* figured and described is very distinct. It was found on the summit of Mount Anderson at an altitude of 7300 ft. above sea-level. The plant grows to a height of 3 ft. and forms a shrub several feet in diameter. The silvery leaves and pinkish heads make it a very conspicuous object in the veld. The type of branching is rather peculiar, as each branch divides into three short branchlets, each of which terminates in a flower-head. We are indebted to General the Rt. Hon. J. C. Smuts, F.R.S., for the specimens illustrated.

DESCRIPTION:—A shrubby plant up to 1 m. high. *Stems* woody, 2.5 cm. in diam., branching at the apex into several densely leafy branches which usually divide again at the apex into 3 branchlets, each of which terminates in a capitulum. *Leaves* 3 cm. long, 1.5 cm. broad, oblong, strongly reflexed, with revolute margins, and with the apices recurved and mucronate, distinctly 3-nerved, densely yellowish-white, woolly beneath, shortly and densely pubescent with gland-tipped hairs above. *Capitula* 2 cm. long, about 3 cm. in diam.

*Involucral bracts* in many rows, lustrous, white with deep rose tints, 5-15 mm. long, 3 mm. broad, ovate to linear-oblong, obscurely and minutely mucronate at the apex, which sometimes splits into 3 teeth. *Receptacle* nude, minutely honey-combed. *Florets* numerous, greenish-yellow. *Pappus* of few glandular bristles.

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PLATE 483.—Fig. 1, a leaf; Fig. 2, longitudinal section of capitulum; Fig 3, floret with pappus.

F.P.S.A., 1933.





## SUTERA AURANTIACA.

*Cape Province, Orange Free State, Transvaal, Natal,  
Zululand.*

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SCROPHULARIACEAE. Tribe MANULEAE.

SUTERA, *Roth.*; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 945.

---

**Sutera aurantiaca** (*Burch.*) *Hiern in Cat. Afr. Pl. Welw.* i. p. 757;  
*Fl. Cap.* vol. iv. ii. p. 292.

---

*Sutera aurantiaca* is a widely distributed species in South Africa, and extends into tropical Africa. Burchell, in his *Travels in South Africa*, first described the plant as *Buchnera aurantiaca*, and Hiern took over the specific name. At Fauresmith, in the Orange Free State, where the plant was collected, it grows in masses in grassy depressions near streams. When in bloom the small bright flowers make the plant a very attractive object. We are indebted to Miss I. C. Verdoorn for the specimens figured.

DESCRIPTION:—*Stems* many from a woody rootstock, radiating, spreading on the ground and ascending, slender, terete, thinly and shortly glandular-pubescent. *Leaves* fascicled, up to 1 cm. long, bipinnatisect, with the segments obovate-oblong or linear, shortly glandular-pilose. *Flowers* orange-vermilion in colour, axillary or sometimes racemose at the ends of the branches. *Pedicels* up to 2 cm. long, shortly glandular-pilose. *Calyx* deeply 5-lobed, c. 3 mm. long, shortly glandular-pilose; segments linear-spathulate. *Corolla-tube* about 7 mm. long, tubular, slightly widened and curved near the top, sparsely and shortly glandular-pilose without; lobes 5, spreading, slightly unequal, broadly oblong to almost rotund. *Stamens* included, inserted in the corolla-tube. *Style* up to 6 mm. long; stigma terminal. (National Herbarium, Pretoria, No. 14,514.)

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PLATE 484.—Fig. 1 flower; Fig. 2, medium longitudinal section of flower.

F.P.S.A., 1933.





## SUTERA ALBIFLORA.

*Orange Free State.*

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SCROPHULARIACEAE. Tribe MANULEAE.SUTERA, *Roth ; Benth. et Hook. f. Gen. Plant.* vol. ii. p. 945.

---

**Sutera albiflora**, *Verdoorn*, sp. nov., affinis *S. argenteae*, *Hiern*, sed statura et floribus albis differt.

---

*Suffrutex* 15–45 cm. altus. *Rami* basi crassi, lignosi, ramulis multis herbaceis gracilibus instructi. *Folia* opposita, 0·5–1·3 cm. longa, lineari-oblongolata vel obovata, integra vel apice dentata vel lobata, dense et minute papillosa. *Flores* albi, pauci vel multi in racemum terminalem dispositi. *Bractee* foliis similes sed minores. *Pedicelli* bracteis longiores, erecti, graciles, glandulosi. *Lobi calycis* 5, lineares, glandulosi. *Tubus corollae* 6–9 mm. longus, calyce duplo longior, tenuis, apice postice gibbosus, breve glandulosus, purpureo suffusus; limbus 2-labiatus, patens; lobi ligulati, apice emarginati, albi, basi purpurei lineati.

ORANGE FREE STATE: Fauresmith distr.: Veld Reserve, on slopes and at foot of Koppie, *Verdoorn* 1053 (type), 990; *Henrici* 1803; *Smith* 3962, 5291, 5406, 4526.

---

On Plates 131 and 196 we figured species of the genus *Sutera*. The genus is typically South African, as the majority of the species (about 118) are found in the Union, only a few being recorded from tropical Africa, and one species has been found in the Canary Islands. The species we describe and figure falls into the same section of the genus as that previously illustrated. In the Fauresmith district the species is found on the slopes and at the foot of Koppies and also in the open veld. It is readily eaten by all grazing animals, and the constant grazing may probably cause the stunted woody base of the plant which is so characteristic. The new growth, which is herbaceous, is also somewhat aromatic. We are indebted to Miss I. C. Verdoorn for the specimens figured.

DESCRIPTION:—A small bush 15–45 cm. high, with a thick woody tap-root. *Branches* very slender, densely and finely glandular, herbaceous, becoming woody with age.

*Leaves* opposite, sometimes fascicled, 0.5–1.3 cm. long, linear-oblongate to obovate, entire, or toothed or lobed at the apex, densely and finely glandular. *Flowers* few to many, arranged racemously on the ultimate branchlets. *Bracts* resembling the leaves, but smaller. *Pedicles* 0.5–1.2 cm. long; erect, slender, glandular. *Calyx* 5-lobed to the base; lobes about 2 mm. long, linear, finely glandular. *Corolla-tube* faintly suffused with purple, 6–9 mm. long, usually more than twice as long as the calyx, slender, with a slight oblique gibbosity at the throat, glandular-pubescent; limb 2-lipped, spreading; lobes white, with slender purple markings at the base, strap-shaped, emarginate. *Capsule* small, membranous.

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PLATE 485.—Fig. 1, an entire leaf; Fig. 2, a lobed leaf; Fig. 3, calyx; Fig. 4, median longitudinal section of corolla.  
F.P.S.A., 1933.





EUPHORBIA LYDENBURGENSIS.

*Transvaal.*

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EUPHORBIACEAE. Tribe EUPHORBIEAE.

EUPHORBIA, Linn. ; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 258.

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**Euphorbia lydenburgensis**, *Schweickerdt et Letty*, sp. nov., affinis *E. griseolae*, Pax, sed ramis semper tetragonis et cymis sessilibus differt, et *E. heterochromae*, Pax, sed pedunculo fructifero brevi et semine tuberculato differt.

---

*Frutex* carnosus, erectus, aphyllus, spinosus, ramis e basi, ad 44 cm. altus. *Rami* abrupte adscendentes, usque ad 1-2 cm. crassi, elongati, semper tetragoni, glabri, pallide luteo-virides, ad apicem iterum multis ramulis erectis; facies laterales concavi deinde plani; anguli repando-lobati, podariis corneis fuscis vel griseis confluentibus; podarii parvi, fere 1 cm. longi, verticaliter dispositi, tetracanthi. *Spinae* 2 inferiores 5-7 mm. longae, divaricatae, fere horizontaliter dispositae, fuscae vel griseae; spinae 2 superiores minutissimae vel 1 mm. longae. *Bractae* squamatae, ovatae, acutae, glabrae, 1 mm. longae, 1-5 mm. latae. *Cyma* ternis cyathiis, axillaris, sessilis. *Cyathium* infundibuliforme, luteum, glabrum, 2-5-3 mm. diam., 5 glandulis integris transverse oblongis, intus lobis ovatis irregulariter dentatis; cyathium medium floribus masculis ante cyathia lateralibus floribus masculis feminisque floret. *Ovarium* glabrum, sessile, inclusum; styli simplices, patentes reflexique. *Capsula* 3-lobata, 2 mm. longa, 3 mm. diam., sessilia. *Pedicellus* 1 mm. longus. *Semina* (immatura) tuberculata.

TRANSVAAL: Lydenburg distr.; Steelpoort Valley, 30 miles north of Lydenburg, *van Balen and de Wyn in Nat. Herb.*, Pretoria, 12,465; 14,398 (types).

---

The species of *Euphorbia* which we figure and describe is quite distinct from *E. tetragona* Haw., which belongs to the same section of the genus as our plant. Its affinities are with some of the tropical African species of *Euphorbia* and it is very closely related to a plant collected by the late Dr. R. Marloth at Lobatsi in Bechuanaland, which Pax described as *E. griseola*. We are indebted to Messrs. J. C. van Balen and G. J. de Wyn for the specimens. In the locality in which they were collected the species is common and grows socially.

DESCRIPTION :—An erect fleshy spiny shrub up to 44 cm. high, branched from the base. *Branches* ascending, up to 1·2 cm. thick, often 4-angled, glabrous, with the faces usually concave; shields on the angles about 1 cm. long, continuous, with 2 large and 2 very small spines. *Larger spines* 5–7 mm. long, diverging and horizontal; smaller spines about 1 mm. long. *Bracts* 1 mm. long, 1·5 mm. broad, ovate, acute, glabrous. *Cymes* in groups of 3 cyathia, axillary, sessile. *Cyathia* 2·5–3 mm. in diameter, with 5 entire transversely oblong glands and 5 ovate irregularly-toothed lobes; the middle cyathium male, the lateral bearing male and female flowers. *Ovary* included, sessile, glabrous; styles 3, spreading and reflexed. *Capsule* 2 mm. long, 3 mm. diameter, 3-lobed, sessile. *Seeds* (immature) tuberculate.

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PLATE 486.—Fig. 1, bract; Fig. 2, cyathium showing glands and lobes; Fig. 3, lobe of cyathium; Fig. 4, male flower; Fig. 5, female flower; Fig. 6, fruit.

F.P.S.A., 1933.





## LYCIUM SALINICOLA.

*Orange Free State. Cape Province.*

SOLANACEAE. Tribe ATROPEAE.

LYCIUM, L.; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 900.

***Lycium salinicola***, *Verdoorn*, sp. nov., affinis *S. prunus-spinoso*, Dunal ex DC. (species non satis cognita) sed lobis corollae patentibus.

*Frutex* c. 1·3 m. altus. *Caules* erecti. *Rami* valde divaricati, griseo-nitide brunnei, glaberrimi; ramuli circiter 7 cm. longi, divaricati, apice spinosi. *Folia* fasciculata, ad 1 cm. longa, ad 2 mm. lata, oblongo-cuneata. *Pedicellus* solitarius, 1 cm. longus, filiformis, e centro fasciculorum foliorum ortus. *Calyx* poculiformis, 4 mm. longus, basi obconicus, glaber; dentes 5, erecti, subinaequales, marginibus puberulis. *Corolla* alba vel dilute-lilacina, infundibuliformi-campanulata, circiter 7 mm. longa, 1·4 cm. diam.; lobi 5, raro 4, patulo-ovati vel oblongi, patentés. *Stamina* 5, raro 4, exserta; filamenta subinaequalia, ad corollae tubum vix infra medium inserta, basi villosa.

CAPE PROVINCE: Britstown distr.: 3 miles west of Britstown, *Pole Evans* 2302. Gordonia distr.: from edge of first pan 30 miles north-west of Upington, *Pole Evans* 2155. Cradock distr.: Cradock-Boroda, on second plateau from Fish River, *Dyer* 1032.

ORANGE FREE STATE: Fauresmith distr.: Varkfontein, *Verdoorn* 895 (type); 1051; Luckhoff, *Smith* 490; Knoffelhoek, near northern boundary below Goedemansberg, *Smith* 5413; Bakbank, brackveld, *Henrici* 2423.

The genus *Lycium* is represented in South Africa by about 18 species, all of which are spiny shrubs. About 50 species of the genus have been recorded from the temperate and warm regions of the world; and it is very common in South America. The South African species very much need critical revision, as many of them, despite the thorny habit, are eaten by small stock. The species described and figured makes a beautiful show when in full bloom. It is fairly common on the farm Varkfontein in the Fauresmith district, where it was found flowering in an open stretch of brackish soil in November 1932. Farmers report that the young shoots are

eaten by sheep and the plant is considered to be a good grazing shrub.

Mr. C. A. Smith notes on a sheet (Smith 490) "a perfect match of Burchell 1514, from the Zak Rivier, Aug. 13, 1811, Faserburg div. and referred by Wright (*Fl. Cap.* iv. ii. 113) to *L. oxycarpum* var. *parviflorum*." We have no authentic specimens of this species but according to the description the plants differ from *L. oxycarpum* in having exserted stamens which are inserted just below the middle of the corolla-tube. We are indebted to Miss I. C. Verdoorn for the specimen figured.

DESCRIPTION :—A shrub 1.3 m. or more high, with erect stems and long, widely spreading branches. *Branches* purplish-brown, with a silvery sheen, glabrous; the ultimate branches about 7 cm. long, divaricate, ending in a spine. *Leaves* fascicled, unequal in length, up to 1 cm. long and 2 mm. broad, oblong-cuneate. *Pedicel* solitary from the centre of the fascicle of leaves, up to 1 cm. long, filiform, thickening towards the apex. *Calyx* cup-shaped, 4 mm. long, shortly 5-toothed; teeth somewhat unequal and evidently puberulous along the margin. *Corolla* campanulate-funnel-shaped, 7–8 mm. long, up to 1.4 cm. in diam., when fully expanded; lobes 5, rarely 4, about 4 mm. long, ovate to oblong, spreading. *Stamens* 5, rarely 4, inserted just below the middle of the corolla-tube, exserted; filaments slightly unequal, densely villous at the thickened base.

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PLATE 487.—Flowering shoot and median longitudinal section of flower.  
F.P.S.A., 1933.





CEROPEGIA CIMICIODORA.

*Transvaal.*

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ASCLEPIADACEAE. Tribe CEROPEGIEAE.

CEROPEGIA, *Linn. ; Benth. et Hook. f. Gen. Plant.* vol. ii. p. 779.

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**Ceropegia cimiciodora**, *Obermeyer*, sp. nov., affinis *C. stapeliaeformis*, Haw. sed floribus solitariis vel binis (nunquam cymosis), et forma corollae differt.

*Caulis* carnosus, ad basin 2.5 cm. diam., tuberculatus; in parte superiore tenuis, volubilis, plerumque glaber, nitens, griseus, maculis olivaceis adpersis. *Rami* multi. *Folia* minuta, cordata vel triangulata, 2.5 mm. longa, 3 mm. lata, firma, sessilia. *Flores* solitarii si bini tum ordinatim explicati. *Pedicelli* breves, robusti, 8 mm. longi. *Sepala* angustovata, 2 mm. longa. *Corolla* curvata, griseo-adsersa, ad apicem maculis purpureis, fere 5 cm. longa; tubus supra basin inflatus, gradatim angustatus cylindricusque, fauce infundibuliforme extus glaber, basi et fauce intus molliter pilosus; limbus stellatus, 2 cm. diam., apicibus loborum non cohaerentibus; lobi inflexi replicatique, extus subtusque carinis producti; lobo alabastri patentes, breviter acuminati, late triangulati, marginibus sursum curvatis, intus pilis longis purpureis praesertim per margines carinae. *Lobi* coronae exterioris erecti, bidentati vel interdum alio dente irregulare et minore, et per marginem intus pilis longis albis muniti; lobi coronae interioris 4 mm. longi, super antheras incumbentes tum conniventes in columna erecta, demum acuminibus breviter recurvatis. *Folliculi* 10 cm. longi, tuberculati, apicibus capitatis.

TRANSSVAAL: Zoutpansberg distr.: near Waterpoort on farm Chapudi 141, near the house of Mr. Booyens, *Obermeyer*, *Schweickerdt*, and *Verdoorn*, 322.

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We have on several occasions illustrated species of the genus *Ceropegia* and that shown on the accompanying plate should be compared with these. Our species is nearest *C. stapeliaeformis* Haw., which is figured in the *Botanical Magazine*, t. 3567. Both have fleshy stems, but in *C. stapeliaeformis* the flower-bud is produced into a beak, whereas in *C. cimiciodora* the flower-bud is more or less flattened at the apex. Although of unattractive habit the flowers are beautiful. In its native habitat it was found scrambling in a small thorn bush 3 ft. high. It grows in sandy soil, and is

evidently extremely rare in the locality where it was collected. We are indebted to Mr. G. van Son, who grew the plant in Pretoria. It was from this specimen that our plate was prepared and the description made. The specific name has been given because the flower emits an odour of a bedbug (*Cimex* sp.).

DESCRIPTION :—*Stems* fleshy, tuberculate, shiny, greyish mottled with olive green, glabrous. *Leaves* sessile, 2.5 mm. long, 3 mm. broad, cordate or triangular. Flowers solitary or two together developing successively on the shortened lateral branches. *Pedicels* 8 mm. long. *Sepals* 2 mm. long, narrow-ovate. *Corolla* mottled grey and speckled with purple at the apex, c. 5 cm. long, curved; tube with a small white ring at the base, inflated at the base and there gradually narrowed and cylindric, funnel-shaped at the mouth, glabrous without, softly pilose within at the base and at the mouth; limb star-shaped when viewed from above, 2 cm. diam.; lobes not connate at the apex, ciliate, tips inflexed, replicate and produced beneath into keels; in bud the flower forms a 5-rayed star-shaped structure when seen from above, with each ray broadly triangular and shortly acuminate. *Outer corona-lobes* erect, with 2 teeth and sometimes an irregular smaller one, pilose with long white hairs on the inside and on the margin; inner corona-lobes 4 mm. long, incumbent over the backs of the anthers and then connivent into an erect column with shortly recurved tips, dorsally connected to the outer corona at the base and there with two brown vertical stripes. *Follicles* 10 cm. long, tuberculate and with knob-like apices.

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PLATE 488.—Fig. 1, median longitudinal section of flower; Fig. 2, corolla-lobes seen from above; Fig. 3, corona.

F.P.S.A., 1933.





## BULBINE LATIFOLIA.

*Cape Province. Natal.*

LILIACEAE. Tribe ASPHODELEAE.

BULBINE, *Linn.*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 784.**Bulbine latifolia**, *Roem. et Schultes, Syst. Veg.* vii. 447; *Fl. Cap.* vol. vi. p. 366.

We have previously figured two species of *Bulbine* (see Plates 217 and 377). The species illustrated on the accompanying plate belongs to quite another group of the genus as a comparison of the Plates will show. While the species differ so in habit, as, for example, *B. latifolia* with its broad leaves, and *B. mesembryanthemoides* with its peculiar leaves partly buried in the ground, all agree in having stamens with hairy filaments. The genus as a whole is not particularly attractive, but as it is typically South African, we take the opportunity of figuring any species which come into flower. *B. latifolia* was illustrated over 140 years ago by Jaquin, though the plate is not very typical of the plant as it grows naturally. Our specimen was grown in the garden of the Division of Plant Industry, Pretoria, and was collected near Drummond in Natal by Mr. J. J. van Nieuhuys.

DESCRIPTION:—An acaulescent perennial with a dense rosette of leaves. *Leaves* fleshy, varying in number up to 20, up to 30 cm. long, 5–6 cm. broad at the base, ovate-lanceolate, acuminate, with narrow membranous margins and reticulate veins, glabrous. *Peduncle* up to 32 cm. long, about 4 mm. in diam. *Flowers* in a raceme; on the lower part of the peduncle scattered, becoming denser above, maturing successively, the lowest flowers fall while the uppermost are still in bud. *Bracts* 3·5 mm. long, ovate, long-acuminate. *Pedicel* up to 1 cm. long, articulating at the apex, typically securved after flower has fallen. *Perianth* 7 mm. long; segments linear. *Stamens* 2·5 mm. long; filaments covered

with long hairs; anthers 0.75 mm. long, sub-globose. *Ovary*  
0.75 mm. long; style 4.5 mm. long; stigma sub-capitate.  
(National Herbarium, Pretoria, No. 8192.)

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PLATE 489.—Fig. 1, a single flower (enlarged).  
F.P.S.A., 1933.





PLATE 490.

ORPHIUM FRUTESCENS.

*Cape Province.*

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GENTIANACEAE. Tribe CHIRONIEAE.

ORPHIUM, *E. Mey.* ; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 805.

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**Orphium frutescens**, *E. Mey.*, *Comm.* 181 ; *Fl. Cap.* vol. iv. sect. 1. 1095.

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The genus *Orphium*, which contains only one species, is endemic to the south-western districts of the Cape Province. It is one of the components of the true strand flora, and Dr. J. Muir (*The Vegetation of the Riversdale Area*) mentions it as one of the commonest plants of the halophilous marshes of the strand veld. The plant varies considerably in habit according to the conditions under which it grows; those of the shore have broader, thicker leaves crowded on the stem, while in the inland forms the leaves are narrower, thinner and not so crowded. We are indebted to Mrs. J. C. Letty for the specimens which were collected near the sea at Saldanah Bay in 1926.

DESCRIPTION :—A shrub 15–100 cm. high, much-branched. *Leaves* opposite, decussate, 2·5–5 cm. long, 0·4–1 cm. broad, flat, oblong-lanceolate or lanceolate or sub-linear, obtuse or sub-acute, usually villous-pubescent. *Flowers* pedicelled, solitary or in 3–5-flowered cymes. *Calyx* 1·2 cm. long, divided half-way, pubescent without; lobes obtuse, rarely sub-acute. *Corolla-tube* as long as the calyx, narrowly fusiform; lobes 2 cm. long, 1–1·2 cm. broad, obovate, obtuse. *Stamens* inserted in the throat of the corolla; filaments flattened at the base; anthers linear-oblong, twisted. *Ovary* 6 mm. long, 1-chambered, ovoid-oblong, with intruding placentas and numerous ovules; style filiform; stigma capitate.

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PLATE 490.—Fig 1, median longitudinal section of flower; Fig. 2, pistil;  
Fig. 3, a stamen.  
F.P.S.A., 1933.





## DISA RHODANTHA.

*Cape Province, Transvaal, Natal.*

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DISA, Berg. (excl. *Penthea* Lindl.); *Benth. et Hook. f. Gen. Plant.*  
vol. iii. p. 630.

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**Disa rhodantha**, *Schltr. in Engl. Bot. Jahrb.* vol. 20, *Beibl.* 50, 40;  
*Fl. Cap.* vol. v. sect. 3, p. 229.

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This beautiful species of *Disa* is found at the higher altitudes of the Transvaal and on the mountains of Griqualand East and Natal. It appears to be confined to swampy places. The species falls into a section of the genus in which the numerous flowers are arranged in a more or less dense elongated spike. As mentioned in a previous description, *D. rhodantha* is another of those Transvaal orchids which have remained unfigured owing to difficulties in transporting living specimens long distances.

Mr. E. E. Galpin, F.L.S., to whom we are indebted for sending in fresh specimens, collected the plants in swampy ground on the bank of the Crocodile River, near Dullstroom in the eastern Transvaal.

DESCRIPTION :—Plant 54 cm. high. *Stem* robust. *Leaves* radical and cauline; radical leaves 5, spreading, 25 cm. long, 3 cm. broad, lanceolate or linear-lanceolate, acute; cauline leaves 10 cm. long, distinctly stem-clasping, with the free portion spreading. *Inflorescence* a dense many-flowered spike up to 20 cm. long. *Bracts* 2 cm. long, lanceolate, acuminate. *Flowers* rose-coloured; dorsal sepal 4 mm. long, galeate, with a minute apiculus at the apex situated at about 1 mm. from the edge; spur cylindric from a conical base, much longer than the limb, curving forward and then backwards and upwards; lateral sepals 8 mm. long, 4 mm. broad, somewhat oblique, with a short stout dorsal apiculus. *Lateral petals* 6 mm. long, slightly oblique, oblong-lanceolate, acute; lip sometimes light yellow, sometimes greenish-purple, 6 mm. long, linear-spathulate. *Column* white, short; rostellum emarginate or

shortly bilobed, with very short side lobes; stigma roundly and bluntly hexagonal; anthers almost horizontal. (National Herbarium, Pretoria, No. 14,511.)

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PLATE 491.—Fig. 1, a flower, front view; Fig. 2, a flower, side view; Fig. 3, column with petals attached; Fig. 4, side view of column, lip attached; Fig. 5, view of stigma and pollen-sacs.

F.P.S.A., 1933.





SATYRIUM OCELLATUM.

*Cape Province, Orange Free State, Transvaal, Natal.*

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ORCHIDACEAE. Tribe OPHRYDEAE.

SATYRIUM, Swartz ; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 629.

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**Satyrium ocellatum**, Bolus ;  *Ic. Orch. Austro-Afr.* vol. i, tab. 23,  
*ex parte* ; *Fl. Cap.* vol. v. sect. 3, p. 166.

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This is the first opportunity we have had of figuring a species of *Satyrium*. The genus *Satyrium* is represented by about 100 species, over half of which occur in South Africa, mostly in the south-western and eastern districts of the Cape Province. The species recorded from the Orange Free State and the Transvaal are from the eastern mountain range. The possible exception is the species we illustrate, which has been collected in the neighbourhood of Johannesburg and Pretoria.

The species of *Satyrium* are readily distinguished from species of *Disa* in the flower having two spurs. The plants from which our Plate was prepared were found by Mr. A. O. D. Mogg, M.A., in marshy ground at Pyramids Vlei near Pretoria. In this locality the plant was plentiful.

DESCRIPTION :—Plants varying from 35–70 cm. high. *Stem* simple. *Leaves* cauline, decreasing in size up the stem, distinctly stem-clasping, with the free portion of the lowest leaves up to 18 cm. long, 4 cm. broad, lanceolate, subacute, distinctly nerved below. *Inflorescence* up to 16 cm. long. *Bracts* reflexed, 2·5 cm. long, 8 mm. broad, lanceolate, acute, glabrous. *Flowers* white or pale pink. *Sepals* 9 mm. long, 4 mm. broad, obovate-oblong, with the anterior petal linear and narrower than the lateral ones. *Lateral petals* similar to the sepals but narrower; lip superior, 1 cm. long, galeate; spurs 3 cm. long, gradually narrowing downwards. *Column* 1 cm. long, slightly curved; rostellum more or less ovate, with 2 small side-lobes; stigma slightly convex. *Anther-sacs*

pendulous under the rostellum ; pollinia granular, 2-lobed.  
(National Herbarium, Pretoria, No. 14,880.)

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PLATE 492.—Fig. 1, flower with part of sepals and petals cut away to  
show curved column ; Fig. 2, front view of column.

F.P.S.A., 1933.





LISSOCHILUS SANDERSONI.

*Natal.*

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ORCHIDACEAE. Tribe VANDEAE.

LISSOCHILUS, *R. Br. in Lindl. Bot. Reg. t. 573 (1821)*; *Benth. et Hook. f. Gen. Plant. vol. iii. p. 536.*

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**Lissochilus Sandersoni**, *Reichb. f. Otia Bot. Hamb. i. 62.* *Eulophia porphyroglossa*, *Bolus in Journ. Linn. Soc. vol. xxv. p. 185.*

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Between genera so closely allied as *Lissochilus* and *Eulophia* it is difficult to state the differences except in general terms. They were created at the same time by R. Brown, who distinguished *Lissochilus* from *Eulophia* by its uncrested, or more strictly speaking unbearded, lip (*lissos* = smooth; *cheilos* = lip), reflexed sepals, and broader and more erect petals. When all these characteristics are combined in the same flower, they afford sufficient ground for upholding *Lissochilus*, and the difficulty of decision arises only in the case of intermediate forms. The question of uniting the two genera has been fully discussed, and some fifty years ago, when the matter was referred to the authorities at Kew, the decision given was that "there appear to be no good grounds for separating *Lissochilus* from *Eulophia*; the character of the broad petals as a distinctive mark of *Lissochilus* breaks down, and the character of an uncrested lip, upon which Brown founded the genus *Lissochilus*, equally so." In 1913, however, when the late Mr. Rolfe's monograph was published in the *Flora Capensis* both genera were upheld, *Lissochilus* comprising the thirteen non-controversial species and the controversial ones being retained in *Eulophia*. Since then a certain amount of living material has been handled, and the impression made is that the more robust habit, apart from actual size, the more leathery leaves, broader sepals and petals, and the more fleshy and solid nature of the crest (it is misleading to call the lip "smooth"), which is not finely divided

into hair-like segments, constitute generic significance. All these characteristics are exhibited in *Lissochilus Sandersoni*, one of the handsomest of the South African *Orchidaceae*, whose range extends from Natal into tropical Africa. The specimen, of which a portion is figured here, was sent by Dr. J. W. Bews, probably from near Durban, in November 1916. The leaf drawn is reduced to half the natural size.

DESCRIPTION:—*Leaves* 3-4, up to 1·2 met. long, 8-10 cm. broad, narrowed downwards into a petiole, prominently veined. *Scape* 1 met. high, up to 1·6 cm. diam.; sheaths few, acute, 4-7 cm. long. *Raceme* 20 cm. long, rather dense, many-flowered. *Bracts* broadly ovate or suborbicular, cuspidate, 3-1·5 cm. long. *Pedicels* in fruit about 5 mm. long. *Sepals* spreading or reflexed, oblong-obovate, shortly acuminate, 2·5 cm. long. *Petals* oblong-ovate or orbicular-ovate, obtuse, up to 3 cm. long, 1·5-2·1 cm. broad. *Lip* inferior, with the broadly conical spur 7 mm. long up to 4·5 cm. long, up to 3·5 cm. broad, with 3 rows of conspicuous papillae extending from the base to the middle of the intermediate lobe, conspicuously 3-lobed, the side-lobes erect, ample rounded, intermediate curved upwards, oblong-orbicular, up to 1·7 cm. long, 1·5 cm. broad. *Column* 1·8 cm. long, produced at base into a distinct foot; anther 2-horned at the apex; gland transversely elliptical. L. Bolus. (Bews; Wood 374.)

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PLATE 493.—Fig. 1, leaf  $\times \frac{1}{2}$ ; Fig. 2, portion of scape with sheath; Fig. 3, inflorescence; Fig. 4, bract; Fig. 5, sepal; Fig. 6, petal; Fig. 7, lip nat. size; Fig. 8, lip and column; Fig. 9, column, front view; Fig. 10, do. side view; Fig. 11, pollinarium—enlarged.

F.P.S.A., 1933.





## DIPLACORCHIS TENUIOR.

*Transvaal.*

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ORCHIDACEAE. Tribe OPHRYDEAE.

DIPLACORCHIS, *Schltr.* (*Platanthera* L. C. Rich. ex parte in *Benth. et Hook.*  
*f. Gen. Plant.* vol. iii. p. 626.

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**Diplacorchis tenuior** (*Reichb. f.*) *Schltr. in Bot. Centralbl.* vol. 38, p. 128  
(1921); *Platanthera tenuior* *Schltr.; Fl. Cap.* vol. v. sect. 3, p. 88.

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In the year 1865 the plant we figure was described by Reichenbach as a species of *Brachycorythis* (*B. tenuior*). Twenty years later Dr. N. E. Brown transferred the species to the genus *Habenaria* and in 1895 Schlechter referred it to the genus *Platanthera*. The late Dr. H. Bolus accepted this name and figured the species in *Orchids of South Africa* (Pl. 61) as *Platanthera tenuior*, *Schltr.* In the *Flora Capensis* published in 1913 the name was also kept up by Rolfe. In 1921 Schlechter proposed the name *Diplacorchis* for several species and included our plant under this new genus. Apparently the only difference between the genus *Platanthera* and *Diplacorchis* is that species of the latter have a bilobed lip.

The specimen we figure was collected by Mr. J. J. van Nouhuys, B.Sc., among grass on the hilltops between Ashbury and Zwartkop Aerodrome near Pretoria.

DESCRIPTION:—A glabrous herb 30 cm. high. *Tubers* finger-like, 3–5 cm. long, .8–1.2 cm. in diam., irregular. *Leaves* cauline, passing into sheaths below and bracts above, sessile, 4 cm. long, 2 cm. broad, ovate-lanceolate, distinctly keeled, with a more or less prominent vein on each side of the mid-rib, obtuse. *Bracts* similar to the leaves but smaller. *Ovary* 1.2 cm. long, twisted, with deep channels and rounded ridges. *Sepals* 7 mm. long, obliquely lanceolate, subfalcate. *Petals* slightly smaller than the sepals; lateral petals 7 mm. long, 4 mm. broad, ovate, obtuse, somewhat concave; posterior petal with the 2 lateral sepals forming a partial hood. *Lip*

adnate to the column; limb 9 mm. long, 7.5 mm. broad, obovate, bilobed, with crenate margins; spur 6 mm. long, obtuse. *Anther-thecae* erect; pollinia glandular, each attached to a separate caudicle and gland; glands naked, lying on the lateral arms of the rostellum. *Rostellum* shortly 3-lobed; the middle lobe strongly laterally compressed and lying between the 2 anther-thecae, longer than the lateral lobes. (National Herbarium, Pretoria, No. 8460.)

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PLATE 494.—Fig. 1, a flower; Fig. 2, front view of column showing the 2 anther-thecae; Fig. 3, side view of column; Fig. 4, a pollinium.  
F.P.S.A., 1933.





C. Letty del.

PLATE 495.

DISA SAXICOLA.

*Transvaal.*

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ORCHIDACEAE. Tribe OPHRYDEAE.

DISA, *Berg.* (excl. *Penthea* Lindl.); *Benth. et Hook. f. Gen. Plant.*  
vol. iii. p. 630.

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*Disa saxicola*, *Schltr. in Engl. Bot. Jahrb.* vol. 20, *Beibl.* 50, 41;  
*Fl. Cap.* vol. v. sect. 3, p. 244.

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In the past it has been extremely difficult to illustrate the Transvaal orchids in colour on account of the difficulty of sending fresh material to Cape Town where the late Dr. H. Bolus worked on his *Orchids of South Africa*. Now that we have an opportunity in Pretoria of figuring living plants we hope to illustrate most of the orchids. The specimens illustrated on the accompanying Plate were forwarded to us in January 1933 by Mr. E. E. Galpin, F.L.S., who found them growing on rocks on Suikerboskop, at an altitude of 7000 ft., near Dullstroom in the eastern Transvaal. *Disa saxicola* is closely related to *D. oreophila*, Bolus, which is found in the eastern districts and Natal. It differs in having broader leaves and differently coloured flowers. It has been recorded only from the Transvaal in South Africa, but has also been collected in tropical Africa.

DESCRIPTION:—A rather slender plant 20 cm. high. *Leaves* 5, cauline, spreading and arching, 15 cm. long, 8–12 mm. broad, linear or linear-lanceolate, acute, glabrous. *Inflorescence* 6 cm. long, somewhat lax, many-flowered. *Bracts* 7–1.2 cm. long, 2 mm. broad. *Flowers* white with bluish-purple spots. *Dorsal sepal* hood-shaped, 4 mm. long, broadly-ovate, obtuse; spur cylindric from a conical base, longer than the limb and curving downwards; lateral sepals 5 mm. long, broadly oblong, obtuse with a blunt apiculus. *Petals* included under the dorsal sepal, 3 mm. long, broadly wing-like, dilated at the base in front; lip 3 mm. long, linear-spathulate.

*Column* short, anthers almost horizontal; pollen-sacs spotted with purple; rostellum erect, shortly 3-toothed; stigma thickened. (National Herbarium, Pretoria, No. 14,512.)

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PLATE 495.—Fig. 1, a bract; Fig. 2, part of flower with petals attached, pollen-sacs seen behind; Fig. 3, front view of column with lip attached; side view of column with lip attached.

F.P.S.A., 1933.





## EULOPHIA MACOWANI.

*Cape Province.*

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ORCHIDACEAE. Tribe VANDEAE.

EULOPHIA, *R. Br. in Bot. Reg.* t. 686; *Benth. et Hook. f. Gen. Plant.*  
vol. iii. p. 535.

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**Eulophia MacOwani**, *Rolfe in Dyer, Flor. Cap.* vol. v. sect. 2, 38.

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The specimen figured here was collected by the late Mrs. Mildred A. Holland near Frames' Drift, a few miles from Port Elizabeth, in February 1917, and represents a plant of normal size. A recent (January 1932) collection by Mr. F. H. Holland from the plateau above Bushman's River Mouth, after good rains, has slightly larger flowers whose measurements are included in this description. The rhizomes of the latter are remarkable in being up to 45 cm. long. The species belongs to the group which has the leaves and flowers developed contemporaneously. The ovary appears to remain untwisted throughout the flowering, and in consequence the lip retains the superior or posticous position and the odd sepal is inferior or anticous in the flower, which is among the largest in the genus.

It is possible that the inland localities cited in the *Flora Capensis* for *E. MacOwani* may prove to belong to other species. For example, *Tyson* 1086 from near Kokstadt is quoted both under *E. MacOwani* and *E. robusta*, and it is certainly better placed under the latter; so that *E. MacOwani* may be said usually to haunt sandy localities near the mouth of rivers: it also occurs at the Kowie and Keiskamma Rivers.

Besides being confused with *E. barbata* and *E. robusta*, this species has also been taken for *E. Dregeana*, as, for example, in the *Icones Orchidearum*, ii. t. 9, where the two plants dealt with are probably *E. barbata* and *E. MacOwani*, as Mr. Rolfe suggested.

DESCRIPTION:—*Rhizome* elongated; pseudobulbs up to 21,

up to 4 cm. diam. *Leaves* 7, erect or finally spreading, conduplicate, linear, acuminate, veins conspicuous with age, 1-2 primary veins prominent on each side of the midrib, texture rather thin, 6-20 cm. long, 1.4-0.8 cm. broad. *Scape* 30-40 cm. high, up to 5 mm. diam.; sheaths 5-7, up to 6 cm. long, the lower imbricate. *Raceme* 8-16 cm. long, simple or very rarely with a branch from the lowest bract, 10-14-fl. *Bracts* broadest near the middle, acute or acuminate, 2-1.1 cm. long. *Pedicels* differentiated from the ovary in fruit up to 8 mm. long. *Sepals* spreading, linear, acute or acuminate, up to 2.5 cm. long and 7 mm. broad. *Petals* oblong-elliptic or subobovate, obtuse or abruptly acute, up to 2.8 cm. long, up to 1.5 cm. broad. *Lip* superior, with the spur 6-7 mm. long as long as the petals, up to 1.8 cm. broad, inconspicuously 5-7 keeled near the base, with 3 rows of lacerated papillae extending to about the middle of the intermediate lobe, side-lobes small, obtuse, intermediate 1.4 cm. long and broad. *Column* 6 mm. long, produced at base into a distinct foot; anther sub-orbicular, very shortly rostrate at base; gland of oval pollinia transversely elliptical. L. Bolus. (M. A. Holland, 18. F. H. Holland, 3815.)

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PLATE 496.—Fig. 1, 2, sepals; Fig. 3, petal; Fig. 4, lip and column; Fig. 5, lip, side view, enlarged; Fig. 6, ditto, flattened; Fig. 7, column, front view; Fig. 8, ditto, side view; Fig. 9, anther; Fig. 10, pollina and gland—enlarged.

F.P.S.A., 1933.





## DISA GALPINII.

*Cape Province.*

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ORCHIDACEAE. Tribe OPHRYDEAE.DISA, *Berg. Pl. Cap.* 348; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 360.

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**Disa Galpinii**, *Rolfe in Dyer, Flor. Cap.* vol. v. sect. 2, 230.

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*Disa Galpinii* is one of the lesser known species of this large genus, and has not been figured before. Only one collection is recorded in the *Flora Capensis*, namely, *E. E. Galpin*, 6838, from Midlothian Farm in the Maclear District, Griqualand East, at an altitude of 5600 feet. This was made in March 1904. In April 1914 the species was found again by Mr. A. G. McLoughlin on the mountains near Engcobo, and we are indebted to him for the specimen figured here.

The ascending or erect spur is rarely found in the genus and not in any other species with such small flowers as those of *D. Galpinii*. The foliage is well developed both as to the number of leaves and their size; so that in order to conform to the exigencies of space the lower portion of the plant (Figs. 1, 2) has been reduced to about half the life-size. The second fully produced leaf, however, is given in its natural size showing the sheathing basal portion.

DESCRIPTION:—*Plant* glabrous, 62 cm. high. *Tuber* sub-cylindrical, 9 cm. long, 2 cm. diam. *Stem* densely leafy throughout, the 2 basal sheaths 6–12 cm. long. *Leaves* 10–11, the lowest 25 cm. long, up to 2·5 cm. broad, linear, tapering upwards, acute or acuminate, long-sheathing, the uppermost 4 cm. long with a very short sheath. *Raceme* rather dense, 16 cm. long. *Bracts* erect, 2·5–0·7 cm. long, exceeding the ovary. *Lateral sepals* spreading or recurved, oblong-ovate, 6 mm. long. *Odd sepal* galeate, the mouth suborbicular or oval; spur erect, straight or curved forwards, the apex usually obliquely inflated, 1·8 cm. long. *Petals* erect-incurved, obliquely ovate, 4–5 mm. long. *Lip* linear up to 6 mm. long,

up to 2 mm. broad. *Anther* ascending, the lobes diverging, connective short; middle lobe of the rostellum minute. *Stigma* large, suborbicular. L. Bolus. (A. G. McLoughlin.)

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PLATE 497.—Fig. 1, tuber with lower portion of stem; Fig. 2, portion of stem,  $\times \frac{1}{2}$ ; Fig. 3, raceme; Fig. 4, leaf; Fig. 5, flower,  $\times 2$ ; Fig. 6, side sepal,  $\times 4$ ; Fig. 7, odd sepal,  $\times 2$ ; Fig. 8, petal; Fig. 9, ditto, flattened,  $\times 4$ ; Fig. 10, lip,  $\times 3$ ; Fig. 11, column and lip, side view; Fig. 12, column, front view; Fig. 13, pollinium—enlarged.

F.P.S.A., 1933.





## EULOPHIA BARBATA.

*Cape Province.*

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ORCHIDACEAE. Tribe VANDEAE.

EULOPHIA, *R. Br. in Bot. Reg.* t. 686; *Benth. et Hook. f. Gen. Plant.*  
vol. iii. p. 535.

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***Eulophia barbata*, *Spreng. Syst.* iii. 720.**

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For the student who is trying to identify living orchids with those which have been described from dried material only, the *Eulophiae* of the Port Elizabeth, Albany, and Bathurst Divisions have a special interest. For, as this area was fairly well explored by the early collectors, it can be reasonably assumed that some of the more widely spread species of the Eastern Region would have been collected here first, and would therefore represent the typical forms described. Reasoning thus we are led to conclude that in Drège's collection from "between Van Stadens Berg and Bethelsdorp" we have the type of *Eulophia barbata*. The specimens figured here are from the type-locality, that of Mr. F. R. Long being from Parson's Vlei, near Port Elizabeth, in open veld; but we have some doubt regarding our identification because we have not seen Drège's plant. Moreover, there appear to be two species included in the citations given in the *Flora Capensis*, where *Scully*, 173 and *MacOwan*, 184 are quoted both under *E. barbata* and *E. MacOwani*. These two species are evidently closely allied and difficult to distinguish in the dried state. In living plants, however, differences are manifest in the smaller size of the flowers, as well as of the whole plant, the white petals, and the inferior position of the lip, as well as the larger side-lobes of the latter. Another and an even closer ally of *E. barbata* is *E. ovatiflora*, Rolfe, from the same area. It was described from incomplete material and is, therefore, awaiting further investigation.

Miss Page's drawing was made from a plant which flowered

in the National Botanic Gardens in February 1918, sent by Mrs. T. V. Paterson of Redhouse, and the additional figures were made from Mr. Long's collection of March 1932.

It should be noted that the plant figured as *E. barbata* in the *Icones Orchidearum*, iii. t. 12, is probably *E. purpurascens*, Rolfe.

DESCRIPTION :—*Leaves* 5-6, equitant, ensiform, conduplicate, 7-10 cm. long, up to 1.2 cm. broad. *Scape* 18-20 cm. long, up to 3 mm. diam.; sheaths, 4-5, imbricate, 2-4 cm. long. *Raceme* 10 cm. long, rather lax, about 11-flowered. *Bracts* oblong-ovate, acuminate, 2.5-1 cm. long. *Sepals* spreading or recurved, linear, acuminate, 2.1 cm. long. *Petals* ovate-oblong, abruptly acute, 2.1 cm. long, up to 1.1 cm. broad. *Lip* with the 6-7 mm. long spur 2.2 cm. long, up to 1.4 cm. broad, with 5 crests in the lower half and about 3 rows of lacerated papillae extending to about the middle of the intermediate orbicular lobe, side-lobes ample, about 2 mm. long. *Column* 6 mm. long, produced at base into a distinct foot; anther suborbicular. L. Bolus. (Long, 537.)

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PLATE 498.—Fig. 1, bracts,  $\times 2$ ; Fig. 2, 3, sepals; Fig. 4, petal, nat. size; Fig. 5, column and lip; Fig. 6, ditto (Long); Fig. 7, lip, side view; Fig. 8, ditto, flattened; Fig. 9, column, front view; Fig. 10, ditto, side view—enlarged. A. Flower, side view (Long).

F.P.S.A., 1933.

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DISPERIS DISAIFORMIS.

*Cape Province.*

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ORCHIDACEAE. Tribe CORYCIEAE.

DISPERIS, Swartz in *Vet. Acad. Handl. Stockh.* xxi. (1800) 218; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 633.

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**Disperis disaeformis**, Schlechter in *Verh. Bot. Ver. Brandenb.* xxxv. (1893), 47.

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In this genus are to be found some of the daintiest-looking of the South African flowers, whose beauty is usually associated with glowing colours, large size, and other sturdy qualities that strongly contrast with the almost ethereal appearance of such species as *D. Fanniniae*, *D. Wealii*, and *D. disaeformis*, the subject illustrated here. It is impossible to reproduce the delicate charm of this plant with its pale and almost transparent flowers, flushed with mauve and green, and the purple-backed dark green leaves, making a delightful harmony in shades of purple and green. The species seems to have escaped the notice of the older collectors, and was first recognised as being new by Schlechter, whose very becoming name of *disaeformis* was published in 1893. It has been recorded from the Riversdale, Knysna, and Albany Divisions in the *Flora Capensis*; and since then the late Miss Pegler (No. 1784) found it at Kentani, flowering in July, and lastly, Dr. G. Rattray got it near East London, flowering in August 1917, from whose specimens the drawing was made. In the other areas the flowering-period given is October and November. The type was collected on the slopes of the Langebergen near Riversdale.

DESCRIPTION:—*Plant* 17 cm. high, basal sheaths 1-2, up to 2 cm. long. *Leaves* 2, distant, internode 2 cm. long, amplexicaul, the blade ovate, acute or acuminate, glabrous, 2.5-3 cm. long. *Bracts* spreading, leafy, ovate, acuminate, 0.7-1.5 cm. long. *Pedicels* very short. *Sepals* spreading

forwards and soon deflexed, obliquely ovate, acuminate, the short obtuse sac placed near the middle, all 7 mm. long; odd sepal galeate, erect, the obtuse spur pendent, 2-3 mm. long. *Petals* very shortly clawed, the lip suborbicular or obliquely orbicular-ovate, up to 7 mm. long. *Lip* projecting backwards into the spur of the galea, the lamina somewhat hastate-auriculate, the appendage inflexed, furnished with piliform papillae. *Rostellum* suborbicular, the margins deflexed; gland-bearing arms erect, with a half-twist. L. Bolus. (G. Rattray, Bolus Herbarium, No. 19,413.)

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PLATE 499.—Fig. 1, flower, side view; Fig. 2, side sepal; Fig. 3, odd sepal; Fig. 4, petal; Fig. 5, lip and column, front view; Fig. 6, ditto, oblique view; Fig. 7, ditto, side view.

F.P.S.A., 1933.





## EULOPHIA PRETORIENSIS.

*Transvaal.*

ORCHIDACEAE. Tribe VANDEAE.

EULOPHIA, *R. Br. ex Lindley in Bot. Reg.* sub. t. 686 (1823); *Benth. et Hook f. Gen. Plant.* vol. iii. p. 535.

**Eulophia pretoriensis**, *L. Bolus*, sp. nov. *Planta* 30–40 cm. alta. *Folia* 5–6, synanthia, adscendentia vel patentia, acuta, 8–52 cm. longa. 1–1.8 cm. lata, nervis primariis sat prominentibus. *Scapus* ad 6 mm. diam.; vaginae 6, lineari-lanceolatae, acuminatae, ad 9 cm. longae. *Racemus* 10–13 cm. longus, 11–13-fl., floribus adscendentibus vel patentibus. *Bractee* acuminatae, 3–1 cm. longae. *Pedicelli* fructiferi ad 8 mm. longi. *Sepala* patentia, lineari-lanceolata, longe acuminata, ad 3.6 cm. longa, basi 7 mm. lata. *Petala* ovato-lanceolata, acuta, ad 3.3 cm. longa, ad 1.5 cm. lata. *Labellum* superum, cum calcare obtuso 2 mm. longo ad 2.3 cm. longum, prope basin 2–5-carinatum; papillae laceratae inconspicuae, 3–5-seriatae, parum ultra dimidium lobi intermedii attingentes; lobi laterales rotundati, 3 mm. lati, intermedio 1.4 cm. longo 1.3 cm. lato. *Columna* circa 7 mm. longa, basi in pedem brevem producta. *Capsula* immatura 2.5 cm. longa. *Pretoria distr.*; “*The Willows*,” near Pretoria, *Stent in Government Herbarium*, No. 9949; *Premier Mine*; Rogers, *National Botanic Gardens*, No.  $\frac{90}{18}$ .

Two collections are included in the above description, namely, that of Miss S. M. Stent from “*The Willows*,” Pretoria, January 1914, and that of the Rev. F. A. Rogers from the Premier Mine, December 1917. Our Plate represents the latter.

This species has the same general aspect as its ally, *Eulophia fragrans*, Schltr., figured under Plate 319 of this work. Both species are similarly coloured, and both occur near Pretoria, the latter flowering, as far as our records go, in October and November and the former in December and January. The differences lie in the leaves being longer and narrower in *E. pretoriensis* and fully developed contemporaneously with the flowers; the sheaths on the scape and the bracts are also longer and narrower; the flowers are larger with the sepals narrower and the petals rather more than twice as broad as the sepals,

and the column less than half as long as the lip. Finally, the foot of the column is not produced to the same extent as it is in *E. fragrans*.

There is another species, *E. Nelsoni*, Rolfe, from "Wanderwald," in Pretoria District, which appears from the description to be even a closer ally of *E. pretoriensis*. It seems to be little known, for only one collection has been recorded, and the description was made from dried material. When more information is available, our species may prove to be nothing more than a form of *E. Nelsoni* with longer and broader leaves, larger flowers, and with the papillae on the lip inconspicuous.

DESCRIPTION :—*Plant* 30–40 cm. high. *Leaves* 5–6, fully developed during the flowering-period, ascending or spreading, acute, 8–52 cm. long, 1–1.8 cm. broad, the primary veins rather prominent. *Scape* up to 6 mm. diam.; sheaths 6, linear-lanceolate, acuminate, up to 9 cm. long. *Raceme* 10–13 cm. long, 11–13-fl., flowers ascending or spreading. *Bracts* acuminate, 3–1 cm. long. *Pedicels* in fruit up to 8 mm. long. *Sepals* spreading, linear-lanceolate, long-acuminate, up to 3.6 cm. long, 7 mm. broad at the base. *Petals* ovate-oblong, acute, up to 3.3 cm. long, 1.5 cm. broad. *Lip* superior, with the spur 2 mm. long up to 2.3 cm. long, 2–5-keeled near the base, the lacerated papillae in 3–5 rows, inconspicuous, extending a little beyond the middle of the intermediate lobe, side-lobes rounded, 3 mm. broad, intermediate 1.4 cm. long, 1.3 cm. broad. *Column* about 7 mm. long, produced at base into a short foot. L. Bolus. (Miss Stent, Government Herbarium, No. 9949. Rev. F. A. Rogers, National Botanic Gardens, No.  $\frac{90}{18}$ .)

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PLATE 500.—Fig. 1, reduced sketch of plant; Fig. 2, one of the lower leaves; Fig. 3, upper portion of stem and raceme; Fig. 4, sepal; Fig. 5, petal—natural size; Fig. 6, lip; Fig. 7, lip and column; Fig. 8, column, front view; Fig. 9, ditto, side view—enlarged.

F.P.S.A., 1933.





C. Letty del.

## ARCTOTIS ACAULIS.

*Cape Province.*

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COMPOSITAE. Tribe ARCTOTIDEAE.ARCTOTIS, Linn. ; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 458.

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**Arctotis acaulis**, Linn. *Sp. Pl.* ed. 2, p. 1306 ; *Fl. Cap.* vol. iii. p. 450.

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This handsome species of *Arctotis* flowered at the Division of Plant Industry, Pretoria, in 1927. It is closely related to *A. Fosteri* N.E. Br. which we illustrated on Plate 3, but differs not only in the colour of the ray-florets but also in the structure of the disc-florets. A casual examination of specimens named *Arctotis acaulis* suggests that probably more than one species is involved. Linnaeus in the third edition of the *Species Plantarum*, p. 1306, quotes t. 35 of Commelin's *Plantarum rariorum*, etc. as *A. acaulis*. If we accept this figure as illustrating Linnaeus' species, then we do not think our plant can be *A. acaulis* L. Our plant matches the figure in Jacquin's *Plantarum rariorum Horti Caesarei Schoenbrunnensis* (t. 161), which he names *A. speciosa*, but it does not agree with the plate in the *Botanical Magazine* (t. 2182), which is cited as *A. acaulis*. The differences in colour and size of the flower-head appear to be too great to consider these as mere forms of a single species. Without reference to types we are unable to undertake this critical examination and for the time being regard our plant as *Arctotis acaulis* in the sense of the *Flora Capensis*.

We are uncertain from where our plant originally came.

DESCRIPTION :—A sub-acaulous plant. *Leaves* 5–10 cm. long, .8–12 cm. broad, lanceolate in general outline above, with the blade irregularly pinnatilobed, attenuated at the base into a long petiole, obtuse, scabrous above, densely white-woolly beneath. *Scape* up to 15 cm. long, bearing a few leaves, woolly, with intermingled setae which are banded with

red. *Flower-head* 8.5 cm. in diameter when fully expanded. *Involucral-bracts* in several rows; the outer acuminate and woolly; the inner ending in an obtuse membranous appendage. *Receptacle* convex. *Disc floret*: *Corolla-tube* 4 mm. long, 1.5 mm. diam. above gradually narrowing downwards; lobes 1 mm. long, oblong, with a thickening at the back below the apex. *Anthers* obtuse at the base, with an ovate apical appendage. *Style* 5 mm. long, thickened and cylindric above, shortly 2-lobed, discoid at the base. *Ovary* with a basal tuft of long hairs and with 2 collateral cavities. *Pappus scales* 4 mm. long, obovate. *Ray floret*: *Corolla-tube* 4.5 mm. long, 1.5 mm. diam., almost oblong in outline, with three small spatulate lobes in the throat; limb bright yellow above, reddish beneath, 2.5 cm. long, 5.5 mm. broad. *Style* 4 mm. long, thickened above; lobes oblong-linear, obtuse. *Pappus* as in disc-floret. (National Herbarium, Pretoria, No.14,853.)

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PLATE 501.—Fig. 1, diagrammatic longitudinal section of head; Fig. 2, disc-floret; Fig. 3, ovary with pappus (basal tuft of hairs removed); Fig. 4, ray floret; Fig. 5, style of disc-floret; Fig. 6, style of ray-floret; Fig. 7, anthers.

F.P.S.A., 1933.





C. Letty del.

## HOMERIA LILACINA.

*Cape Province.*

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IRIDACEAE. Tribe MOREAE.HOMERIA, *Vent. ; Benth. et Hook. f. Gen. Plant.* vol. iii. p. 692.

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**Homeria lilacina**, *L. Bolus in Ann. Bolus Herb.* vol. iii. p. 9.

---

On two previous occasions (see Plates 306, 417) we figured and described species of *Homeria* and recently had the opportunity of figuring a third species, also described by Mrs. F. Bolus who has devoted considerable attention to our South African petaloid monocotyledons. *Homeria lilacina* in general appearance resembles some species of *Moraea* more than it does many species of *Homeria*, and at first sight might quite easily be mistaken for the former genus. The style-branches, with the papillae on their upper margins, however, indicate that our plant properly belongs to the genus *Homeria*. The species was first collected near Matjesfontein in the Cape Province and was subsequently found in the neighbourhood of Worcester. Corms from this locality were planted at the Division of Veterinary Research, Onderstepoort, near Pretoria, and flowered in October 1932. It was from these plants that our Plate was prepared. Several species of *Homeria* are known to be extremely poisonous to stock, and it is probable that *H. lilacina* may also prove to be a poisonous species though it has not been tested yet.

DESCRIPTION :—*Corm* 2·3 cm. in diam., covered with pale-brown tunics. *Scape* up to 30 cm. high. *Leaves* 3, one radical, two cauline; lowest up to 6 m. long; all 3–6 mm. broad, distinctly ribbed, glabrous. *Flowers* arranged in cymes. *Outer spathe-valves* sub-membranous, 2·5–4 cm. long, acuminate. *Perianth-segments* 1·2–2 cm. long, 4 mm. broad, oblan-ceolate, sharply spreading in the upper half, lilac with a yellow blotch at the bend. *Staminal column* 5 mm. long; anthers

3 mm. long, overtopping the style-branches; style-branches 2.5 mm. long, shortly bifid at the apex. (National Herbarium, Pretoria, No. 14,396.)

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PLATE 502.—Fig. 1, perianth partly cut away, showing staminal column and ovary; Fig. 2, staminal column with anthers; style with shortly bifid stigmas.

F.P.S.A., 1933.





C. Letty del.

2

3

PLATE 503.

ASPARAGUS COOPERI.

*Cape Province.*

---

LILLIACEAE. Tribe ASPARAGEAE.

ASPARAGUS, *Linn.*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 765.

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**Asparagus Cooperi**, *Baker in Gard. Chron.* 1874, i. 818; *Fl. Cap.* vol. vi. p. 263.

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We previously figured a species of *Asparagus* (see Plate 409) and take this opportunity of illustrating a second species of this interesting genus. The specimen illustrated is from a plant growing at the Division of Plant Industry, Pretoria, and is among the most graceful species in the genus. It differs from *A. suaveolens* in the more slender habit and the less prominent spines in the fascicles of the phyllodes. The late Prof. C. E. Moss devoted much time to the nomenclature of the South African species of *Asparagus*, and we are indebted to him for naming our plant.

DESCRIPTION.—A lax scrambler. *Branches* slender, very minutely puberulous, with the internodes usually longer than the phyllodes. *Phyllodes* up to 7 mm. long, acicular, arising in the axil of a reduced leaf which is produced into a minute downward pointing spine. *Flowers* one or two (very rarely three) from each group of phyllodes. *Pedicels* 5 mm. long, jointed below the middle. *Perianth-segments* 3 mm. long, 1 mm. broad, oblong, obtuse, membranaceous with a median keel. *Filaments*  $\frac{3}{4}$  as long as the perianth-segments, membranous, broadly linear; anthers .75 mm. long, oblong in outline. *Ovary* 1.25 mm. long, globose, 3-lobed; style 1 mm. long, divided about half-way down; lobes slightly reflexed, papillose at the apex; ovules 4 in each ovary-chamber. (National Herbarium, Pretoria, No. 8,889 )

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PLATE 503.—Fig. 1, portion of stem showing rudimentary leaf, phyllodes,  
and flowers; Fig. 2, stamen; Fig. 3, pistil.  
F.P.S.A., 1933.





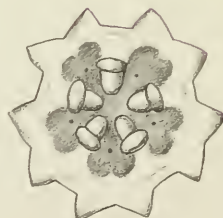
4



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3

PLATE 504.

CARALLUMA TESSELLATA.

*Cape Province.*

---

ASCLEPIADACEAE. Tribe STAPELIEAE.

CARALLUMA, R. Br. ; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 782.

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**Caralluma tessellata**, *Pillans in Kew Bull.* 1933, p. 187.

---

This remarkable plant was discovered by Mr. P. Ross Frames in October 1929 near the main road between Nieuwerust and the Zout Rivier, in the Van Rhynsdorp district. In February 1931 it flowered in Mr. Frames' garden near Cape Town and from these plants the accompanying Plate was prepared. As far as we know the stems are unique in the genus *Caralluma*, as it exists in South Africa. They exactly resemble the stems of species of *Echidnopsis* found in North Africa. The corolla and corona are those of a typical *Caralluma*, and in general habit our plant resembles *C. Maughani* Dyer, which was found in the same locality. The coronas of the two species are, however, very different.

DESCRIPTION:—*Stems* erect from a decumbent base, occasionally procumbent, up to 1 dm. high, 1–1.3 cm. wide, usually somewhat curved, sparingly branched at base, subcylindric, longitudinally furrowed, very obtusely 6-angled, the angles divided by transverse furrows into tetragonal or hexagonal slightly prominent areoles, each with a minute papilla-like rudimentary leaf, glabrous, bright green, indistinctly marked with grey specks. *Flowers* in fascicles of 2–5, in the longitudinal furrows near the apex of the stems, developing successively or several simultaneously. *Pedicels* ascending, 4–5 mm. long, glabrous. *Sepals* 2 mm. long, ovate-lanceolate, acute glabrous. *Corolla* 8–9 mm. in diam., glabrous on the lower surface; lobes 3–4 mm. long, slightly reflexed, recurved at the tips, ovate, acute, the upper surface convex, purple, covered, except at the tips and margins, with papillae, each

tipped with a short, simple hair. *Disk* about 1 mm. wide, convex, covered with short papilla-like hairs, pale green, mottled with purple. *Tube* about 1 mm. deep, 2 mm. wide at the mouth, smooth within, with a few papilla-like hairs at the mouth. *Outer corona* about 1 mm. high, 2 mm. wide, cupular, egg-yellow, lobes erect-spreading, transversely oblong, separated by rounded sinuses, deeply emarginate, the teeth obtuse or rarely acute. *Inner corona* lobes about 1 mm. long, linear-oblong, obtuse, egg-yellow, incumbent on the backs of the anthers, slightly recurved at the tips.—N. S. Pillans.

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PLATE 504.—Fig. 1, flower, from above; Fig. 2, same from the side; Fig. 3, corona, from above; Fig. 4, pollinium.  
F.P.S.A., 1933.





## LACHENALIA SALTERI.

*Cape Peninsula.*

LILIACEAE. Tribe SCILLEAE.

LACHENALIA, *Jacq. in Nov. Act. Helv.* 1; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 807; *Phillips, Gen. S.A. Fl. Pl.* p. 154.

**Lachenalia Salteri**, *Barker, sp. nov.*

*Planta* glabra, 15–21 cm. alta. *Bulbus* globosus, 1.7 cm. diam. *Folia* 2, lanceolata, falcata, 7–12 cm. longa, 1–1.6 cm. lata; lamina laete viridis, conduplicata; vagina 1–5 cm. longa, alba. *Inflorescentia* subspicata, 6–11 cm. longa, 2–2.5 cm. diam. *Bracteae* lanceolatae, 3–5 mm. longae. *Pedicellus* patens, 2–4 mm. longus. *Flores* patentes vel adscendentes, subspicati, 11–12 mm. longi, purpureo-suffusi; tubus albus, 2 mm. longus. *Segmenta exteriora* oblonga, 7 mm. longa, 3 mm. diam., apice purpurea gibbosaque; interiora oblongo-obovata emarginata, 9–10 mm. longa, 4 mm. lata. *Stamina* leviter declinata, exserta, filamenta alba. *Ovarum* 2.5 mm. longum; stylus albus, demum stamina excedens.

CAPE PENINSULA: *Cirkels Vlei*, Salter, 1861. (*Bolus Herbarium.*)

*Lachenalia Salteri*, named after Captain T. M. Salter, who found it near Cirkels Vlei, west of Smitswinkel Bay, between Simonstown and Cape Point, in bloom in December 1931, is an interesting addition to the list of Peninsula plants as well as being of particular interest as one of the late-flowering forms of *Lachenalia*, being with *L. Muirii* the last of the summer species. Its unusually late-flowering period during the dry season may be explained by the fact that it grows in damp black peaty soil, which contains sufficient moisture for its needs.

*Lachenalia Roodeae*, though a much more robust species, seems to be the nearest ally of our plant with its subspicate inflorescence and exserted stamens, but the colouring of its perianth is much more striking, and the outer perianth-segments are more tubular than those of *Lachenalia Salteri*, which are slightly spreading, as in *L. orthopetala*. Also the leaves are distinct, being conduplicate and falcate and sometimes even circinate.

DESCRIPTION:—*Plant* glabrous, 15–21 cm. high. *Bulb*

globose, 1.7 cm. diam. *Leaves* 2, lanceolate-falcate, 7-12 cm. long, 1-1.6 cm. broad; blade bright green, conduplicate; clasping base 1-5 cm. long, white. *Inflorescence* subspicate, 6-11 cm. long, 2-2.5 cm. diam. *Bracts* amplexicaul, lanceolate, 3-5 mm. long. *Pedicles* patent, 2-4 mm. long. *Flowers* spreading or erect, subspicate, 11-12 mm. long, reddish-purple; tube white, 2 mm. long. *Outer segments* oblong, 7 mm. long, 3 mm. diam., with a purple gibbosity at the apex; inner segments oblong-obovate, emarginate, 2-3 mm. longer than the outer, 4 mm. broad. *Stamens* slightly declinate, exserted, filaments white. *Ovary* 2.5 mm. long; style white, finally exserted beyond the stamens.—W. F. Barker.

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PLATE 505.—Fig. 1, flower, side view; Fig. 2, do., front view; Fig. 3, do., from below; Fig. 4, longitudinal section of flower; Fig. 5, outer perianth-segment; Fig. 6, inner perianth-segment; Fig. 7, gynaecium.— $\times 3$ .

F.P.S.A., 1933.





PLATE 506.

LACHENALIA GILLETTII.

*Cape Province.*

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LILIACEAE. Tribe SCILLEAE.

LACHENALIA, *Jacq. in Nov. Act. Helv. i.*; *Benth. et Hook. f. Gen. Plant.*  
vol. iii. p. 807; *Phillips, Gen. S.A. Fl. Pl.* p. 154.

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**Lachenalia Gillettii**, *Barker, sp. nov.*

*Planta* glabra, 12–22 cm. alta. *Bulbus*, 1–1.5 cm. diam. *Folia* 2, erecta vel patentia, obtusa, laete viridia, nervis tenuibus impressis, glabra, 6–14 cm. longa, 2–2.5 cm. lata. *Spica* 4–10 cm. longa, 2.5 cm. diam. *Bracteae* minutae. *Pedicellus* patens, ad 1.5 mm. longus. *Flores* patentibus vel adscendentes subspicati, 9 mm. longi, basi, 4 mm. diam. *Segmenta* exteriora oblonga, acuta, 6 mm. longa, 2.5 mm. lata; interiora lateraliter oblongo-obovata, 8 mm. longa, 4 mm. lata, inferum angustius longiusque. *Stamina* declinata exserta; filamenta albida, antheris sordide luteis. *Ovarium* 2.5 mm. longum; stylus albus, demum stamina excedens.

CLANWILLIAM DIV., Modderfontein; *Gillett*, 3650. (*Bolus Herbarium*.)

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*Lachenalia Gillettii*, though not one of the most conspicuous species of the genus, on account of its dainty colouring makes a charming garden subject. It is named after Mr. J. B. Gillett, who found it growing in sandy soil at Modderfontein in the Olifants River Valley, where it bloomed in August and September of 1930.

It is among the *Lachenaliae* with small tubular, sessile or nearly sessile, flowers, having a marked difference in the length of the perianth-whorls, and in these respects most nearly approaches *L. orchioides*, and *L. undulata*, but differs from them in having definitely exserted stamens, a character usually confined to those species with more or less equal perianth-segments and racemose inflorescences. Its bright green leaves with fine impressed veins on the upper side also serve as a distinguishing character.

DESCRIPTION:—*Plant* glabrous, 12–22 cm. high. *Bulb*, 1–1.5 cm. diam. *Leaves* 2, erect or spreading, obtuse, bright green with impressed nerves on the upper side, glabrous,

6-14 cm. long, 2-2.5 cm. broad. *Spike* 4-10 cm. long, 2.5 cm. diam. *Bracts* minute. *Pedicels* patent, 1.5 mm. long. *Flowers* spreading or erect, subspicate, 9 mm. long, 4 mm. diam. at the base. *Outer segments* oblong, acute, 6 mm. long, 2.5 mm. broad, white, pale mauve at the base, with a pale green gibbosity near the apex, the extreme tip membranous and recurved and tinged with purple; tube 2 mm. long; inner segments oblong-obovate, longer than the outer by 2 mm., the two upper 4 mm. wide at the apex, their apices spreading, the lower longer and narrower, diverging from the rest, all the inner segments white, apex acute, bright purple. *Stamens* declinate, exserted; filaments white, anthers dark. *Ovary* 2.5 mm. long, green; style white, declinate, finally exserted beyond the stamens.—W. F. Barker.

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PLATE 506.—Fig. 1, flower, side view; Fig. 2, do., front view; Fig. 3, do., from below; Fig. 4, longitudinal section of flower; Fig. 5, lateral outer perianth-segment and stamen; Fig. 6, upper outer perianth-segment; Fig. 7, lateral inner perianth-segment; Fig. 8, lower inner perianth-segment; Fig. 9, gynaeceum.— $\times 3$ .

F.P.S.A., 1933.





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6



8

LACHENALIA COMPTONII.

*Cape Province.*

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LILIACEAE. Tribe SCILLEAE.

LACHENALIA, *Jacq. in Nov. Act. Helv. i.*; *Benth. et Hook. f. Gen. Plant.*  
vol. iii. p. 807; *Phillips, Gen. S.A. Fl. Pl.* p. 154.

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**Lachenalia Comptonii**, *Barker, S.A. Gard.* vol. xx. p. 14 (Jan. 1930),  
*Journ. Bot. Soc. S.A.* Part xvi, plate 11, t. D.

This interesting *Lachenalia* is so far as we know confined to the Karroo, the two localities recorded up to the present being Whitehill in the Laingsberg Division and the Bonteberg in the Ceres Division. Both collections were made by Professor Compton.

It is one of the four species with hispid leaves, and the only one of this group from the Karroo. It is quite distinct from its allies in having two leaves and widely spreading segments, in the latter character most nearly approaching *L. latifolia*; but it is unique in having the otherwise inconspicuous pale flower made attractive by the bright purple, exserted filaments.

DESCRIPTION:—*Bulb* globose, 2 cm. long, 1.7 cm. diam. *Leaves* 1–2, erect or slightly spreading, linear, acute, dark greenish-purple, upper surface glabrous or covered with firm spreading hairs, 2 mm. long, 8.5 cm. long, 1.4 cm. broad, the base clasping the peduncle for about 2.5 cm. *Peduncle* dark purple, 7 cm. long. *Inflorescence* racemose, 7.5 cm. long, 2.2 cm. diam., 12–50-flowered. *Bracts* small, ovate. *Pedicels* about 1 mm. long. *Flowers* spreading; perianth campanulate, white, 6 mm. long; tube short; outer segments a little shorter than the inner, 2.5 mm. broad; inner oblong, obtuse, 1 mm. broad; all the segments spreading, white with a pale green keel. *Stamens* much exserted, 7 mm. long; anthers small and yellow; filaments bright purple. *Ovary* 3 mm. long, 2 mm. broad; style purple, as long as the stamens.—W. F. Barker. (R. H. Compton 3533, Bolus Herbarium.)

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PLATE 507.—Fig. 1, flower, side view; Fig. 2, do., front view; Fig. 3, do., from below; Fig. 4, longitudinal section of flower; Fig. 5, lateral outer perianth-segment and stamen; Fig. 6, upper outer perianth-segment and stamen; Fig. 7, inner perianth-segment; Fig. 8, gynaecium.— $\times 3$ .

F.P.S.A., 1933.





LACHENALIA ELEGANS.

*Cape Province.*

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LILIACEAE. Tribe SCILLEAE.

LACHENALIA, Jacq. in Nov. Act. Helv. i.; Benth. et Hook. f. Gen. Plant. vol. iii. p. 807; Phillips, Gen. S.A. Fl. Pl. p. 154.

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**Lachenalia elegans**, Barker, sp. nov.

*Planta* 18–24 cm. alta. *Bulbus* depresso-globosus, 2–2.5 cm. *Folia* 1–2, lanceolata, falcata, cuspidata, 16 cm. longa, 1.5 cm. lata; lamina laete viridis, supra glabra vel pustulata, marginibus incrassatis brunneis; vagina alba, 4–6 cm. longa, inconspicue purpureo suffusa. *Bractee* lanceolatae, 2 mm. longae. *Inflorescentia* spicata, 2 cm. diam. *Flores* adscendentes, sessiles, tubiformes, 1 cm. longi, basi 3 mm. diam. *Segmenta exteriora* oblonga, acuta, basi caeruleo suffusa, apice rubido suffusa brunneoque, gibbosa, 7 mm. longa, 3 mm. lata; interiora alba oblongo-obovata emarginata, basin versus caerulea macula notata, apice leviter patentia, undulata. *Stamina* inclusa, leviter declinata, filamenta albida. *Ovarium* 3 mm. longum, sordide viride; stylus albus, inclusus.

CALVINIA DIV., Nieuwoudtville; Buhr. (*Bolus Herbarium*, No. 19,022.)

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This charming *Lachenalia* was sent to the Bolus Herbarium by Mr. H. Buhr from Nieuwoudtville, where he found it in flower in October 1930. The flowers are not large, but the bright blue of the outer segments makes them conspicuous, and when grown in masses they make beautiful patches of colour. It is most nearly related to *L. orchioides*, but quite distinct from it in having a more rigid peduncle, the flowers more tubular, the outer segments only a little shorter than the inner, and the tube narrower at the base. The inner segments too are almost equal and only slightly spreading, giving the flower a less bilabiate appearance than is usual in the tubular forms, while the leaf is quite distinctive with its thickened brown margin.

*Lachenalia splendida*, Diels, another blue *Lachenalia*, from Windhoek in the Van Rhynsdorp Division, is known to me only from the description; but it seems quite distinct with its outer segments only half the length of the inner, its reddish stamens, and crisped leaf margin.

DESCRIPTION :—*Plant*, 18–24 cm. high. *Bulb* depressed-globose, 2–2·5 cm. diam. *Leaves* 1–2, lanceolate, falcate, cuspidate, 16 cm. long, 1·5 cm. broad; blade bright green smooth or pustulate on the face and with a thickened brown margin; clasping base white, tinged with mauve, 4–6 cm. long. *Bracts* lanceolate, 2 mm. long. *Inflorescence* spicate, 2 cm. diam., 6–9 cm. long. *Flowers* strongly sweet-scented, sessile, tubular, erect, 1 cm. long, 3 mm. diam. at base. *Outer segments* oblong, acute, 7 mm. long, 3 mm. broad, bright blue at the base shading to rose with a brown gibbosity at the apex; inner white oblong-obovate undulate, emarginate and a little recurved with a pale pink spot below the apex and a bright blue triangle at the base larger than the outer by 3 mm. *Stamens* included, slightly declinate; filaments white. *Ovary* dark green, 3 mm. long; style white, as long as the stamens.—W. F. Barker.

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PLATE 508.—Fig. 1, flower, side view; Fig. 2, do., front view; Fig. 3, do., from below; Fig. 4, longitudinal section of flower; Fig. 5, lateral outer perianth-segment; Fig. 6, upper outer perianth-segment; Fig. 7, inner perianth-segment; Fig. 8, gynaecium.— $\times 3$ .

F.P.S.A., 1933.



A



B



## A. CONOPHYTUM

COLORANS.

## B. CONOPHYTUM

EDWARDSIAE.

*Cape Province.*

FICOIDACEAE. Tribe MESEMBRYEAE.

CONOPHYTUM, *N.E. Br. in Gard. Chron.* vol. lxxi. p. 198; *Phillips, Gen. S.A. Fl. Pl.* p. 241, 2405a.

A. *Conophytum colorans*, *Lavis* sp. nov.

*Planta* e corpusculis 15–20 composita, cum floribus expansis 2–3 cm. alta. *Corpusculum* pyriforme, supra convexum, ellipticum, pallide viride, lateribus purpureis, glabrum, punctis interdum confluentibus notatum, ad 15 mm. altum, 14 mm. latum, 15 mm. diam. *Flores* nocturni, odoratissimi, ad 10–12 mm. diam. *Pedunculus* ad 7 mm. longus, in bracteis inclusus. *Calyx* fere omnino exsertus, ruber, ad 6 mm. longus, lobis 5 subaequalibus acutis papulosis ad 2 mm. longis. *Corolla* 10–12 cm. longa, tubo albo in calyce incluso c. 5 mm. longo. *Petala* 2–3-seriata, pauca, late patentia, linearia, acuta, laete lutea ad 6 mm. longa. *Stamina* 3-seriata, exserta, alba, ad 3 mm. longa, antheris pallide luteis. *Discus* viridis, dentatus, 2.5 mm. diam. *Ovarium* supra, medium versus, conico-elevatum. *Stylus* valde brevissimus. *Stigmata* 5, filiformia, apicibus revolutis, ad 3 mm. longa.

N.S. Pillans, in *National Botanic Gardens, Kirstenbosch*,  $\frac{416}{16}$ .

B. *Conophytum Edwardsiae*, *Lavis* in *Notes Mesembm.* II. 291.

The two species figured here illustrate the main groups into which *Conophytum* has been divided, namely, the familiar cone-shaped group, and the bilobed group, of which *C. bilobum* is a good example.

*C. colorans*, which belongs to the former, or clumpy, group, and very probably comes from Little Namaqualand, was given to the National Botanic Gardens, Kirstenbosch, in 1916 by Mr. N. S. Pillans. In 1917 it flowered and was drawn by Miss M. M. Page. The plant has since died, and no subsequent collection has been recorded. Superficially it resembles the affinities of *C. calculus*, from Namaqualand, and is closely allied to *C. Purpusii*, from Prince Albert, but may be dis-

tinguished by the colourful bodies, convex above, often with confluent dots; the brilliant sepals and petals, the latter arranged in fewer series; by the less prominent disc; and 5 instead of 6 stigmas which are revolute only at the tips.

*C. Edwardsiae*, found by Miss Edwards at Warmbaths in July 1915, flowered in May 1917. One of the most picturesque of the genus, it is closely allied to *C. Luckhoffii* from Citrusdal, and *C. turritigerum* from the Paardeberg. Together with four others it forms a subsection of the present group *Biloba*, which might well be called § *Turrita*. The bodies of this section are bilobed, but their lobes, instead of being compressed and keeled, take the form of small turrets or towers, and are usually of a dull slate-grey or brownish shade when flowering, and sunburnt red when approaching the resting stage. The flowers, which open in the day, are showy, and range from shining white to deep rose, in our present species a delicate soft pink.

DESCRIPTION:—A. *Conophytum colorans*, Lavis. *Growths* forming clumps of 15 to 20 corpuscula, sometimes with the remains of old sheaths apparent. *Corpusculum* pear-shaped, convex above, elliptic in outline, spotted, pale green, sides purple, up to 15 mm. high, 14 mm. wide and 15 mm. diam. *Flowers* opening at night, strongly scented; peduncle enclosed in two green sheathing braets. *Calyx* almost entirely exserted, papulose, bright red; lobes 5, subequal, acute, 2 mm. long. *Corolla* 10–12 mm. in diam.; the white tube enclosed in the calyx, 5 mm. long. *Petals* few, in 2 or 3 series, stiffly spreading, linear, acute, up to 6 mm. long. *Stamens* in 3 series, exserted, arising from the upper half of the tube; the white filaments up to 3 mm. long; anthers small, yellow. *Disk* green, dentate, 2.5 mm. in diam. *Ovary* conical above. *Style* almost none. *Stigmas* 5, filiform, revolute at tip, 3 mm. long.

DESCRIPTION:—B. *Conophytum Edwardsiae*, Lavis. *Plant* caespitose. *Corpusculum* subcordate, narrower toward the base, greyish, papulose, up to 1.2 cm. high, 1.1 cm. in diam., the orifice about 1.5 mm. long, the lobes being 5 mm. apart at their apices. *Lobes* turreted, marked with prominent purple lines and dots, up to 4 mm. high, 3 mm. in diam. *Flowers* expanding by day, up to 8 mm. in diam. *Calyx* exserted, papulose, membranous and reddish; lobes 4, acuminate, up to

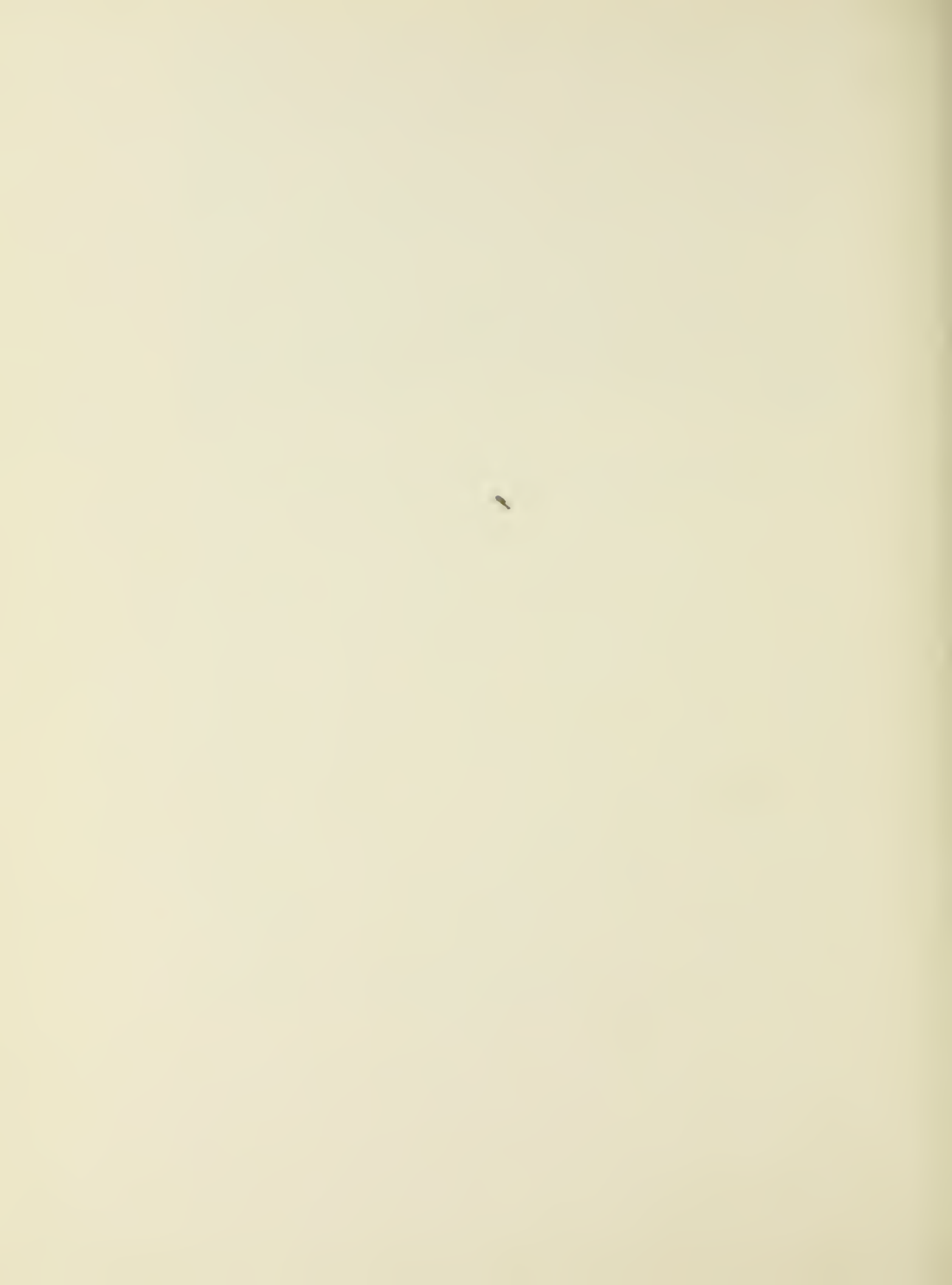
2 mm. long, 0·5 to 1 mm. broad. *Corolla* up to 1 cm. long; tube whitish, 6 mm. long, included in the calyx. *Petals* few, in 3 or 4 series, emarginate, broad, overlapping each other, pale mauve-pink, up to 4 mm. long, and 1·5 mm. broad. *Stamens* about 20, in 2 or 3 series, 4 to 7 mm. long; filaments white; anthers large, yellow, 1 mm. long. *Disk* green, denticulate, 2 mm. in diam. *Ovary* raised at centre. *Stigmas* 6, filiform, yellow, paler towards base, 6 mm. long.—M. Lavis. (G. Edwards, National Botanic Gardens, Kirstenbosch,  $\frac{1969}{15}$ .)

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PLATE 509.—A. Fig. 1, whole body showing remains of sheaths and calyx; Fig. 2, body and calyx; Fig. 3, longitudinal section of body showing bracts, ovary, and calyx; Fig. 4, longitudinal section of flower.

PLATE 509.—B. Fig. 1, calyx,  $\times 2$ . Fig. 2, body and flower, enlarged; Fig. 3, body and closed flower; Fig. 4, closed flower, showing bracts; Fig. 5, longitudinal section of flower; Fig. 6, plant in resting stage; Fig. 7, body enlarged, do.

F.P.S.A., 1933.

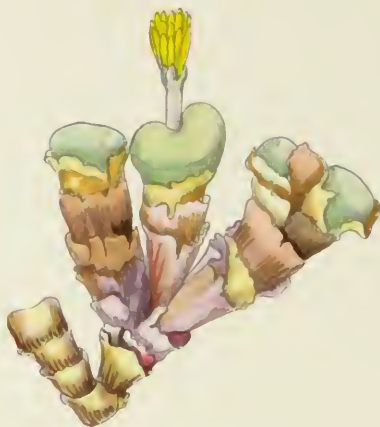






1

A

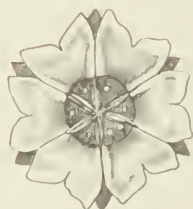


2



a

B



5



1



2



3



4



b

A. CONOPHYTUM

ORNATUM.

*Little Namaqualand.*

B. CONOPHYTUM

VANZYLI.

*Bushmanland.*

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FICOIDACEAE. Tribe MESEMBRYEAE.

CONOPHYTUM, *N.E. Br. in Gard. Chron.* vol. lxxi. p. 198; *Phillips, Gen. S.A. Fl. Pl.* p. 241, 2405a.

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A. *Conophytum ornatum*, *Lavis in Notes Mesembm.* II. 265.

B. *Conophytum Vanzylia*, *Lavis in Notes Mesembm.* II. 267.

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These two species belong to a group of the glabrous cone-shaped *Conophyta* which, with age, have more or less elongated branches.

In *C. ornatum* the branches are well evident above ground, whereas in *C. Vanzylia*, in which the internodes are shorter, they are much less evident, partly because they are more decumbent.

*C. ornatum* was found at Umdaus, near Steinkopf, in Little Namaqualand by Mr. H. Herre, Curator of the Stellenbosch University Gardens. It flowered freely from March to May 1931; and as a subject for cultivation is gay and hardy. Its flowers open in the day in full sunshine. Its petals are the brightest of yellows, and exserted from the corolla-tube are the deep claret stigmas, which add greatly to the general effect.

*C. Vanzylia* was first collected by Mr. G. van Zyl at Pof Adder in the Kenhardt Division in May 1929, when our figure B. a. was made. In 1930 he collected it again, and the plant, figured as B. b., flowered in the National Botanic Gardens in April 1931. The flowers open at first only in the evening, then, as they get older, in the daytime. The bodies are of a pale whitish-green without any markings.

Both these species are closely allied to *C. Victoris*, Lavis, in which, however, the flower throughout expands only at night. *C. ornatum* is also distinct in having an ovary which is flat

above in contrast to the conical ovaries of the other two species.

DESCRIPTION :—A. *C. ornatum*, Lavis. *Plant* branching, up to 5 cm. high; branches thick, woody, wrapped in pale brown imbricating sheaths. *Corpusculum* elongated pear-shaped, grey-green, inconspicuously spotted, viewed laterally a little raised round the orifice, up to 2.3 cm. high, 1.2 cm. broad, 1.5 cm. in diam. *Calyx* entirely exserted, fleshy, greenish-white, 4 to 5 mm. long, 3 mm. in diam.; lobes 6, ovate-acuminate, pale green, 3 to 3.5 mm. *Flowers* up to 2 cm. in diam. *Petals* about 30, laxly arranged in 2 to 3 series, emarginate, yellow, up to 1 cm. long, 1.5 mm. broad; *tube* 4 mm. in diam. at the apex. *Stamens* about 25, in 4 to 5 series, upper exserted, up to 7 mm. long; filaments deep claret; anthers small, yellow. *Disk* inconspicuous, yellowish. *Ovary* flat above. *Style* and stigmas deep claret, up to 2.5 cm. long; *stigmas* 5 to 6, 1.5 mm. long, overtopping the stamens. (H. Herre, 9281 in Stellenbosch University Gardens.)

DESCRIPTION :—B. *Conophytum Vanzylii*, Lavis. *Branches* short, woody, somewhat decumbent, 1.5–2 cm. long; internodes in hard sheaths, 3 mm. long. *Corpusculum* subglobose, slightly convex above, whitish-green, purplish at base, up to 1.1 cm. high, 1.8 cm. broad, 1.9 cm. in diam.; orifice not depressed, up to 4 mm. long. *Flowers* inodorous, up to 1.4 cm. in diam.; peduncles 3 mm. long. *Calyx* almost entirely exserted, 4–6 mm. long; lobes 6, obtuse, green, fleshy. *Petals* about 38, laxly arranged in 4 to 5 series, narrow, slightly recurved, up to 1 cm. long, scarcely 0.5 mm. broad. *Stamens* few, in 2 series, straw-coloured, up to 5 mm. long. *Disk* inconspicuous, 3 mm. in diam. *Ovary* conical above. *Style* none; *stigmas* 5, yellowish, 2–2.5 mm. long.—M. Lavis. (G. van Zyl in National Botanic Gardens,  $\frac{20.2}{29}$  and  $\frac{14.2.5}{30}$ .)

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PLATE 510.—A. Fig. 1, body and open flower; Fig. 2, gynaecium with portion of petals and stamens,  $\times 4$ .

PLATE 510.—B. Fig. 1, body and flower with remains of sheaths; Fig. 2, body and calyx; Fig. 3, opened body showing whole flower with ovary and bracts; Fig. 4, gynaecium and some of the petals and stamens,  $\times 3$ ; Fig. 5, capsule, expanded.

F.P.S.A., 1933.





PLATE 511.

NERINE FALCATA.

*Transvaal.*

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AMARYLLIDACEAE. Tribe AMARYLLEAE.

NERINE, *Herb. in Bot. Mag.* t. 2124 (1820); *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 728; *Phillips, Gen. S.A. Fl. Pl.* p. 161.

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*Nerine falcata*, *Barker*, sp. nov.

*Planta* glabra, 57 cm. alta. *Bulbus* globosus, 5-7 cm. diam. *Folia* 5-7, synanthia, falcata, erecta vel patentia, semi-spiraliter torta, marginibus scabridis, sordide viridia, 26 cm. longa, 3 cm. lata, apice obtusa. *Pedunculus* angulatus, 43 cm. altus, 1.3 cm. latus; spathae folia oblonga, 4.8 cm. longa, 1.8 cm. lata, membranacea. *Umbella* centripetens, 20-25 flora, 24 cm. diam., pedicellis ad 9 cm. longis 2-3 mm. diam. *Perianthium* bilaterale, 5-6 cm. diam., segmentis albidis patentibus deinde recurvis linearibus acutis marginibus versus apicem leviter undulatis roseisque 4.4 cm. longis 5 mm. latis. *Stamina* declinata; filamenta 3.2 cm. longa, rosea. *Ovarium* obtuse angulatum, 4 mm. longum, 7 mm. diam.; stylus declinatus, 4 cm. longus.

TRANSVAAL: Ventersdorp. Mrs. F. Cooke, *National Botanic Gardens, Kirstenbosch*, No.  $\frac{230}{29}$ .

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Our plant, found by Mrs. F. Cooke at Ventersdorp in the Transvaal, seems to be most nearly related to *Nerine flexuosa* var. *Sandersoni*, illustrated in this work on Plate 139, both having a long slender angular peduncle, a centripetal umbel, and unappendiculate stamens; but the flowers of *N. falcata* are more dainty in shape and more delicate in colouring. Our species also differs in having leathery falcate leaves, with scabrous margins and an obtuse apex. The falcate leaves most closely resemble those of *N. lucida* (figured on Plate 134), but they are always raised well above the ground and not prostrate, as seems to be the rule in *N. lucida*.

DESCRIPTION:—*Plant* glabrous, 57 cm. high. *Bulb* globose, 5-7 cm. diam. *Leaves* 5-7, synanthous, falcate, erect or patent, with a half spiral twist, dark green, margin scabrous, 26 cm. long, 3 cm. broad, apex obtuse. *Peduncle* angular,

43 cm. high, 1.3 cm. broad; spathe valves oblong, 4.8 cm. long, 1.8 cm. broad, membranous. *Inflorescence* a centripetal umbel, 20–25 fld., 24 cm. diam.; pedicels 9 cm. long, 2–3 mm. diam. *Perianth* zygomorphic, the lower segments diverging widely from the stamens, 5–6 cm. diam.; segments white, patent, then recurved, linear acute, towards the apex a little undulate and rose pink, 4.4 cm. long, 5 mm. broad. *Stamens* declinate; filaments 3.2 cm. long, rose pink. *Ovary* obtusely angular, 4 mm. long, 7 mm. diam.; style declinate, 4 cm. long.—W. F. Barker.

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PLATE 511.—Fig. 1, inflorescence,  $\times \frac{1}{2}$ ; Fig. 2, leaves,  $\times \frac{1}{2}$ ; Fig. 3, flower, front view; Fig. 4, longitudinal section of young flower; Fig. 5, longitudinal section of old flower; Fig. 6, gynaecium of old flower; Fig. 7, leaf.

F.P.S.A., 1933.





PELARGONIUM TYSONII.

*Cape Province.*

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GERANIACEAE. Tribe GERANIEAE.

PELARGONIUM, *L'Hérit. Geran.* (1787-88) t. 7; *Benth. et Hook. f. Gen. Plant.* vol. i. p. 273.

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**Pelargonium Tysonii**, *Szyszl. in Polyp. Rehmann*, 1888, p. 8;  
*Knuth, in Engl. Pflanzenreich, Geraniaceae*, IV. 129, vol. ii.

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This species belongs to a section of the genus *Pelargonium* that has not yet been illustrated in this work, namely, the section *Hoarea*, which is characterized by the tuberous root, dwarf habit, and 5 or 4 petals as compared with the 2 petals found in the closely allied section *Seymouria*.

In Knuth's monograph (*Pflanzenreich*, IV. 129, vol. II), published in 1912, some 48 species are enumerated; but many of them seem very little known. Probably the chief reasons for this are that the plants die down after flowering, and the leaves, usually polymorphic, are produced after the flowering period. Nevertheless, several species have been carefully studied in Europe and have been described and figured in the magnificent works of Andrews, Sweet and Jacquin. The first species recorded appears to be *Pelargonium longifolium*, Burm. f., described and figured in *Specimen Botanicum de Geraniis*, published in 1759.

The section *Hoarea* is concentrated chiefly in the southwestern region, about 12 species in all, occurring outside this area, in the Karroo and Namaqualand, and 3 others extending as far east as Uitenhage.

Our specimen agrees with the type of *Pelargonium Tysonii*, Szyszl (*Tyson* 328), collected at Murraysburg in 1879 and said to be the same as *Geranium ciliatum*, Cav. (*Cavanille's Dissertationes IV*, anno 1787, 234, t. 118, f. 2). The new trivial name *Tysonii*, was considered necessary because *P. ciliatum*, L. Hérit. and *P. ciliatum*, Willd. (both since merged by Knuth in *P. longifolium*, Burm. f.) already existed.

Four collections of this species are represented in the Bolus Herbarium; *Bolus*, 1800, collected in December 1867, "hills in Sneeuwberg near Zuurpoort Hotel"; *Gill* 65, Blaauwater, Sneeuwberg; *Tyson* 328, Murraysburg; and finally the plants collected by Mr. C. Watermeyer at Leopard's Vlei, Richmond, C.P., grown and flowered in Mr. H. H. Bolus' garden. The leaves were produced in August 1931 and the flowers in November. The Plate was made from these plants. (*Bolus Herbarium*, No. 20,058.)

DESCRIPTION:—*Root* cylindrical, attenuated towards the base, 6.5 cm. long, 2.5 cm. diam., tunics coriaceous. *Leaves* about 9 in the rosette, slightly ascending, ovate or oblong, rarely almost entire, usually irregularly pinnati-partite or bi-pinnately divided, segments acute, ciliate; blade 3–4 cm. long, 1.3–2.5 cm. broad; petiole 4.5–5 cm. long; stipules soon withering, adnate to the petioles for  $\frac{4}{5}$  of their length, free portion 7 mm. long, narrow and acutely pointed. *Peduncles* several, appearing successively, hirsute, 4–10 cm. long; bracts 6 mm. long, lanceolate acute, densely hairy. *Umbels* 5–10-flowered; pedicels 4–5 cm. long, pubescent. *Sepals* broad-lanceolate acute, ciliate, the posterior erect, the rest recurved, 9 mm. long, 3–5 mm. broad, the spur very inconspicuous, as long as the pedicel. *Petals* 5, posterior 2 slightly constricted towards the middle and dilated at the apex, apex emarginate, 2–2.3 cm. long, 5–6 mm. broad, anterior petals obovate, abruptly narrowed at the base, rounded at the apex, 1.8 cm. long, 3 mm. broad. *Stamens*, 5 fertile, 2 longest filaments 7 mm. long, 2 intermediate 5 mm. long, and 1 short filament 3 mm. long, 5 staminodes all equal, nearly as long as the short stamen. *Gynaecium* silky, 6 mm., or finally 9 mm., long. (C. A. Watermeyer, *Bolus Herbarium*, No. 20,058.)—F. M. Leighton.

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PLATE 512.—Fig. 1, plant; Fig. 2, inflorescence and persisting leaves; Figs. 3, 4, 5, leaves; Fig. 6, umbel, nat. size; Fig. 7, flower,  $\times 3$ ; Fig. 8, sepals,  $\times 2$ ; Fig. 9, petals,  $\times 3$ ; Fig. 10, flower, corolla removed; Fig. 11, flower, later stage, part of calyx removed,  $\times 2$ ; Fig. 12, androecium; Figs. 13, 14, 15, gynaecium,  $\times 4$ .

F.P.S.A., 1933.





## PYCNOSTACHYS PURPURASCENS.

*Transvaal. Cape Province.*

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LABIATAE. Tribe OCIMOIDEAE.PYCNOSTACHYS Hook. ; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 1177.

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***Pycnostachys purpurascens***, *Briq. in Bull. Herb. Boiss*, 2<sup>me</sup>. sér. iii. 998; *Fl. Cap.* vol. v. sect. i. p. 292.

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*Pycnostachys* is an African genus of about 40 species, of which three occur in South Africa and are found in the Transvaal, Eastern Orange Free State, Natal, and East Griqualand. The three South African species have all been recorded from the Transvaal Drakensberg and are evidently outliers from tropical Africa. One of these South African species also occurs in tropical Africa. *P. purpurascens* occurs as far south as East Griqualand, which is the southernmost limit of the genus so far as known.

Our specimens were collected by Mr. A. O. D. Mogg, M.A., in Debbé's Ravine, Garsfontein, near Pretoria. This record is interesting, as we have received from the same locality other plants which belong to the flora of the north-eastern Transvaal and which are outliers from that flora. At the time the specimens were collected they were past their prime and our Plate does not do full justice to what is really a beautiful plant and one well worth the attention of horticulturists.

DESCRIPTION:—A herbaceous shrub, up to 1 m. high. *Branches* 4-angled, pubescent. *Leaves* sessile, 9 cm. long, 1 cm. broad, becoming smaller above, linear, obtuse, with the margins irregularly toothed, pubescent. *Inflorescence* of terminal and axillary spikes, often arranged in a paniculate manner at the ends of the branches. *Spikes* 4–5 cm. long, 4.5 cm. in diam. (including the corollas). *Calyx-tube* 1.5 mm. long; lobes 5 mm. long, linear-subulate, pubescent.

*Corolla* 2-lipped, pubescent; tube sharply deflexed at about the middle, narrow and straight for 5 mm. below the deflexion, then dilated for 5 mm. above the deflexion; upper lip 1.5 mm. long, 3 mm. broad, quadrate, 4-lobed; lower lip 6 mm. long, boat-shaped. *Stamens* included in the lower lip. *Style* shortly exserted; stigma simple. (National Herbarium, Pretoria, No. 15,269.)

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PLATE 513.—Fig. 1, median longitudinal section of flower; Fig. 2, pistil showing large unilateral gland; Fig. 3, diagrammatic cross-section of stem.

F.P.S.A., 1933.



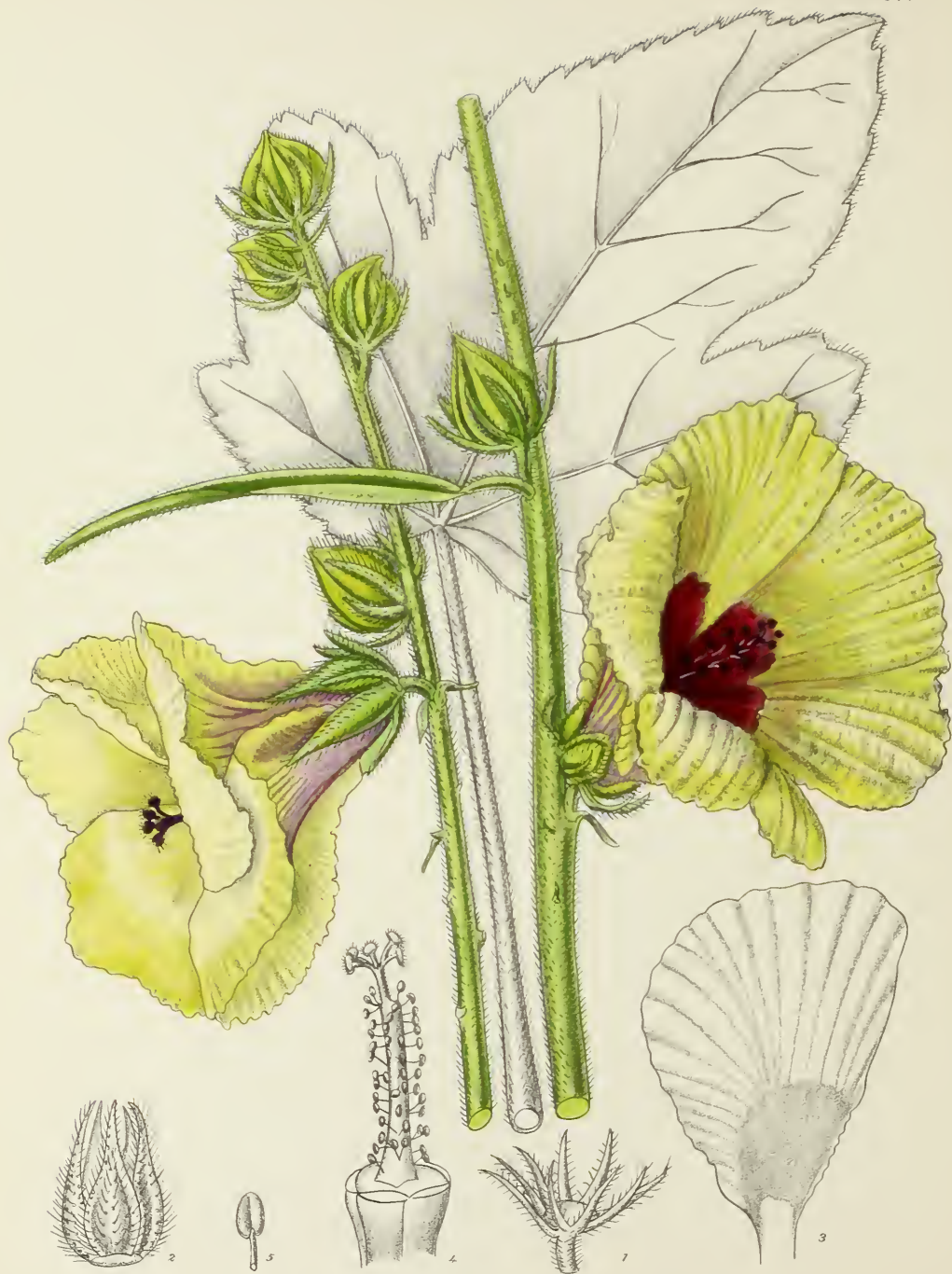


PLATE 514.

HIBISCUS DIVERSIFOLIUS.

*Cape Province. Natal.*

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MALVACEAE. Tribe HIBISCEAE.

HIBISCUS, *Linn.*; *Benth. et Hook. f. Gen. Plant.* vol. i. p. 207.

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*Hibiscus diversifolius*, *Jacq. Ic. Rar.* t. 551; *Fl. Cap.* vol. i. p. 171.

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Although the genus *Hibiscus* is represented in South Africa by 40 to 50 species, this is only the second opportunity we have had of figuring a member of the genus. On Plate 436 we included a species from the northern Transvaal. The plant shown on the accompanying Plate comes from Natal, but is also known to occur in the Uitenhage district. We are indebted to Miss C. Letty, who collected the specimen at Shelly Beach on the south coast of Natal. She describes it as a shrubby bush up to 4 ft. high found growing on the wall of a bridge over a culvert. The plant has large pale yellow flowers with dark red centres, which open in succession and close at sunset.

The genus *Hibiscus* contains about 300 species, found in all warm countries. Those in South Africa are widely distributed and many of them have exceptionally beautiful flowers and are worthy of cultivation.

DESCRIPTION:—A shrub about 1 m. high. *Branches* finely and densely stellate-pubescent, with scattered sharp-pointed tubercles. *Lower leaves* petioled; petioles up to 11 cm. long, stellate-pubescent, with scattered sharp-pointed prickles; blades up to 9 cm. long and 10 cm. broad, palmately lobed, stellate-pubescent; lobes coarsely serrate; upper leaves undivided, oblanceolate, coarsely toothed. *Flowers* arranged on the branches in a pseudo-raceme. *Pedicel* .5–1 cm. long, densely villous with stellate hairs and with a few sharp-pointed prickles. *Epicalyx* of 8–9 linear segments, pubescent. *Calyx-lobes* about 2 cm. long, about 7 mm. broad, ovate-

lanceolate, very densely setose with stiff hairs from bulbous bases. *Corolla* when expanded about 7 cm. in diam.; lobes obovate, oblique, pale yellow with a deep maroon base. *Style* 4.5 cm. long; stigmas capitate, each surrounded by a fringe of hairs. (National Herbarium, Pretoria, No. 13,046.)

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PLATE 514.—Fig. 1, epicalyx; Fig. 2, calyx; Fig. 3, a petal; Fig. 4, staminal column and stigmas; Fig. 5, a stamen.

F.P.S.A., 1933.





UTRICULARIA PREHENSILIS.

*Transvaal. Natal. Cape Province.*

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LENTIBULARIACEAE.

UTRICULARIA *Linn. ; Benth. et Hook. f. Gen. Plant.* vol. ii. p. 987.

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**Utricularia prehensilis**, *E. Mey. Comm.* i. 282; *Fl. Cap.* vol. iv. sect. ii. p. 432.

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On Plate 243 we showed an example of an insectivorous plant, and on the accompanying Plate we figure another belonging to this interesting group. The genus *Utricularia* contains over 100 species, mainly massed in the tropics of both hemispheres. They are rootless aquatic or terrestrial herbs, more rarely epiphytes, and usually have minute bladder-like organs in which small organisms are trapped and partially absorbed. The species of *Utricularia* are commonly known as "bladder-worts."

We are indebted to Miss C. Letty for the specimen figured, and which she found near Shelly Beach on the south coast of Natal. The plants were growing in mud and were either decumbent or clinging to reeds, etc.

DESCRIPTION :—A slender plant up to 20 cm. long. *Leaf* solitary, 1 cm. long, 1 mm. broad, linear, obtuse; modified leaves matted with a few globose shortly-stalked bladders about .5 mm. in diam. *Peduncle* up to 15 cm. long, filiform, twining, flexuous, bearing 1–3 flowers. *Bracts* about 2 mm. long, ovate, acute, the lower barren. *Pedicels* 7 mm. long. *Calyx-lobes* membranous; upper 7 mm. long, 4 mm. broad, ovate, acute, many-nerved; lower 5 mm. long, 3 mm. broad, ovate, lanceolate. *Corolla* yellow, 1.7 cm. long, with the habit of twisting as the flowers mature until the lower lobe is uppermost; upper lip 7 mm. long, 4–5 mm. broad, oblong-spathulate, with rounded entire or slightly emarginate tip; lower lip 1.3 cm. long, broadly ovate, shortly bilobed; palate

erect, almost parallel with the upper lip, 3-gibbous; spur descending, slightly curved, tapering 8 mm. long. *Filaments* 2 mm. long; anthers about 1 mm. long. *Ovary* sub-globose, gradually passing into the style. (National Herbarium, Pretoria, No. 14,111.)

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PLATE 515.—Fig. 1, modified leaves with bladders; Fig. 2, ovary; Fig. 3, lower lip showing pistil and stamens; Fig. 4, calyx-lobe; Fig. 5, stigma; Fig. 6, lower corolla lobe.

F.P.S.A., 1933.





RAPHIONACME GALPINII

*Transvaal. Natal.*

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ASCLEPIADACEAE. Tribe PERIPLOCEAE.

RAPHIONACME *Harv. ; Benth. et Hook. f. Gen. Plant. vol. ii. p. 745.*

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Raphionacme Galpinii, *Schltr. in Engl. Bot. Jahrb. vol. 18, Beibl. 45. 14 ; Fl. Cap. vol. iv. sect. i. p. 536.*

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The genus *Raphionacme* is confined to Africa and is represented by about 25 species. In South Africa nine are recorded, mostly from the Transvaal. All species of the genus have large tubers or clusters of fleshy fusiform roots from which, usually, dwarf simple or branched stems arise, though in two of the South African species the stems are twining. *Raphionacme Galpinii* is the only species which occurs in the neighbourhood of Pretoria, and it was only recently that we had an opportunity of figuring it. Our plant was collected in October 1931 by Mr. A. O. D. Mogg, M.A., on the hills above Sunnyside, Pretoria, where it is found occasionally.

DESCRIPTION :—*Tuber* 8 cm. in diam., 14 cm. long, with a distinct neck 3 cm. long and 1·5 cm. in diam. *Stem* (including the inflorescence) 7 cm. high. *Leaves* 2–4 cm. long, lanceolate, narrowed into a short petiole, densely pilose. *Inflorescence* a many-flowered cyme. *Bracts* 4–6 mm. long, subulate, pubescent. *Calyx-lobes* 3 mm. long, linear, tapering upwards, pilose. *Corolla* 1 cm. diam. when expanded; tube sub-campanulate, almost glabrous; lobes 3·5 mm. long, 2 mm. broad, oblong-lanceolate, obtuse, pilose without. *Corona* arising at the mouth of the corolla-tube; lobes transverse-rectangular at the base, 3-fid, with the middle lobe long-filiform and the side lobes shortly ovate. (National Herbarium, Pretoria, No. 10,858.)

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PLATE 516.—Fig. 1, longitudinal section of corolla showing a corona-lobe; Fig. 2, side view of corona-lobe, also showing anther-appendage; Fig. 3, calyx.

F.P.S.A., 1933.





PLATE 517.

TINNEA GALPINI.

*Transvaal.*

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LABIATAE. Tribe AJUGOIDEAE.

TINNEA, Kotschy; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 1220.

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Tinnea Galpini, *Briq. in Bull. Herb. Boiss.* 2nd series, iii. p. 1094; *Fl. Cap.* vol. v. sect. i. p. 383.

---

The genus *Tinnea* is represented in Africa by about 20 species, one of which extends into Arabia. Only one species, *Tinnea Galpini*, is recorded from South Africa and was first collected by Mr. E. E. Galpin in the neighbourhood of Barberton in the north-eastern Transvaal. It differs from the other South African members of the tribe *Ajugoideae* in having an inflated, 2-lipped calyx when in fruit. *Tinnea Galpini* is a small shrub with sweetly scented, violet flowers and is restricted to the mountains in the Barberton district.

We are indebted to Mr. J. J. Nouhuys, B.Sc., for the specimens, which he found on serpentine formation round the Munich-Myburgh asbestos mine near Kaapsche Hoop.

DESCRIPTION:—A small shrub 15–40 cm. high, densely and shortly pilose. *Leaves* shorter than the internodes, 1.2 cm. long, 7 mm. broad, elliptic, obtuse, usually shortly and bluntly mucronate, entire, shortly ciliate, pubescent beneath, glandular above. *Flowers* solitary in the axils of the upper leaves forming a pseudo-raceme at the ends of the branches. *Pedicels* up to 8 mm. long, 2-bracteolate, densely pilose. *Calyx* purplish, 2-lipped, about 7 mm. long, pilose; tube campanulate; lips about 2.5 mm. long, 7 mm. broad, with the upper lip only slightly exceeding the lower lip. *Corolla* claret or prune-coloured, about 9 mm. longer than the calyx, 2-lipped, pubescent without; tube funnel-shaped, 10–11 mm. long, annular-pilose within; upper lip about 3 mm. long, about 7.5 mm. broad, emarginate; lower lip up to

7 mm. long, about 10 mm. broad, 3-lobed, with the median lobe transversely oblong and the lateral lobes broadly rounded, 3 mm. long and 4 mm. broad. *Stamens* ascending under the upper lip of the corolla, slightly exserted; the lower pair the longer; anthers 2-thealous. *Ovary* shortly 4-lobed; style 4 mm. long, shortly 2-fid. (National Herbarium, Pretoria, No. 8,826.)

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PLATE 517.—Fig. 1, median longitudinal section of a flower.  
F.P.S.A., 1933.





PLATE 518.

CARALLUMA GRANDIDENS.

*Transvaal.*

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ASCLEPIADACEAE. Tribe STAPELIEAE.

CARALLUMA, *R. Br.*; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 782.

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**Caralluma grandidens**, *Verdoorn*, sp. nov.; affinis *C. maculatae* N. E. Br., sed lobis latoribus, et *C. Rangeanae* Dinter, sed dentibus caulium majoribus et corona exteriori annulo simulante differt.

*Planta* rhizomata. *Caules* simplices vel basi ramosi, circiter 7 cm. longi, 4-angulati, purpureo-maculati, glabri; anguli dentibus deltoideis robustis 1.5 cm. longis mucronatis infra apicem interdum minute bidenticulatis. *Inflorescentia* medio ramorum orta. *Flores* 3-nati. *Pedunculi* crassi, circiter 1 cm. longi, glabri. *Pedicelli* circiter 5 cm. longi, 2 mm. diam., glabri. *Alabastra* oblonga, 5-angulata, acuta. *Sepala* circiter 1 cm. longa, lanceolata. *Corolla* 5 cm. diam.; tubus 5 mm. longus; lobi oblongi, leviter recurvi, subtiliter rugosi, marginibus reflexis, pilis brevibus et vibratilis ciliatis. *Corona exterior* annularis, marginibus revolutis; corona interior 5-loba, lobis 2 mm. longis oblongo-spathulatis.

ZOUTPANSBERG DISTRICT. :—In sandy soil between Zoutpan and Waterpoort, Obermeyer, Schweickerdt and Verdoorn 403, 405, 411. (Type from farm Chapudi.)

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This rather striking species of *Caralluma* occurs in sandy areas at the foot of the northern slopes of the Zoutpansberg. While the aerial parts appear to grow in isolated tufts, an examination shows that they are connected by long, jointed underground stems. Usually the clumps are found in open fully exposed patches of deep sand somewhat impregnated with lime, though occasionally they are found in the shade of trees. Though the plants are scattered they are quite plentiful.

DESCRIPTION :—Plant forming long rhizomes. *Stems* in tufts of 7–12, simple or branched at the base, about 7 cm. long, 4-angled, green with purple-brown markings; teeth up to 1.5 cm. long, deltoid, mucronate, with 2 minute teeth just below the apex. *Flowers* usually 3, arising about midway

on the stems, developing in succession. *Peduncle* stout, under 1 cm. long, glabrous. *Pedicels* about 5 cm. long, 2 mm. in diam., green with small purple-brown spots at the apex, glabrous. *Buds* oblong in outline, distinctly 5-angled. *Calyx-lobes* about 1 cm. long, lanceolate. *Corolla* 5 cm. in diam. when expanded, yellowish-green with small purple-red spots; disk flat; lobes 2.2 cm. long, 7 mm. broad, oblong, spreading-recurved, with reflexed margins, finely rugose on face, shortly ciliate and with long white vibratile hairs on the lower  $\frac{2}{3}$ . *Corona* dark-purple-red, appearing 1-seriate; outer corona shallowly basin-shaped, with recurved margins; inner corona fused with the outer at the base and then produced into 5 oblong-spathulate lobes. (National Herbarium, Pretoria, No. 15,271.)

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PLATE 518.—Fig. 1, unopened bud; Fig. 2, corona (side view); Fig. 3, corona (top view).  
F.P.S.A., 1933.





CEROPEGIA SETIFERA.

*Transvaal.*

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ASCLEPIADACEAE. Tribe CEROPEGIEAE.

CEROPEGIA, Linn. ; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 779.

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**Ceropegia setifera**, *Schltr. in Engl. Bot. Jahrb.* vol. 20, Beibl. 51, 48;  
*Fl. Cap.* vol. iv. sect. ii. p. 821.

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The species of *Ceropegia* figured on the accompanying Plate is related to those shown on Plates 382 and 387. As will be seen from earlier plates, *e.g.* 39, 44, 191, the corolla lobes may be connate in quite a different manner. It is the peculiar way in which the lobes of the corolla are connected which gives the charm and fascination to the flowers of the genus. *Ceropegia*, like the genus *Raphionacme*, has a tuberous root-stock or a cluster of thick, fleshy roots and more rarely with ordinary stout root-fibres. The species we illustrate has thick fleshy roots. We are indebted to Dr. H. G. Schweickerdt for the specimens, which he found growing in the shade of *Celtis Kraussiana* on the banks of the Pienaar's River, Pretoria district, where it was fairly abundant.

DESCRIPTION :—A twining plant, climbing up small trees. *Stem* about 1 mm. in diam., glabrous; internodes 4·5–8·5 cm. long. *Leaves* varying from 1·6 to 6 cm. long, 1–4 cm. broad, ovate-oblong to almost oblong, apiculate at the apex, rounded or sub-cordate at the base, with the veining distinct above and beneath, ciliate, sparsely pilose above and beneath. *Flowers* solitary or 2–3 together in the axils of the leaves, whitish with purple markings (the markings vary so that the flower may be more purplish than white), greenish above. *Peduncle* about 1·3 cm. long, glabrous. *Calyx-lobes* 2 mm. long, lanceolate, acute, shortly setose. *Corolla-tube* curved, 2 cm. long, 4 mm. in diam., inflated at the base, glabrous without, hairy within; lobes 7 mm. long, folded into falcate plates,

connivent at the apex, glabrous without, with long reflexed hairs within. *Outer corona-lobes* 1.5 mm. long, 1 mm. broad, almost quadrate, with a middle triangular lobe and 2 lateral lobes more or less recurved, ciliate with long white hairs; inner corona-lobes 2.5 mm. long, linear, projecting above the staminal-column and then recurved. (National Herbarium, Pretoria, No. 15,270.)

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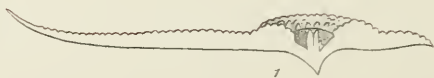
PLATE 519.—Fig. 1, longitudinal section of flower; Fig. 2, corona, side view; Fig. 3, corona seen from above.

F.P.S.A., 1933.





C. Letty del.



## STULTITIA TAPSCOTTII.

*Cape Province. Transvaal.*

ASCLEPIADACEAE. Tribe STAPELIEAE.

STULTITIA, Phillips, nom. nov.

**Stultitia Tapscottii** (Verdoorn), Phillips, comb. nov.

In the description accompanying Plate 445, we suggested the generic name *Stapeliopsis* for a plant which Dr. N. E. Brown described as *Stapelia Cooperi*. At the time we were not aware that Mr. N. S. Pillans had published the same generic name for another member of the *Stapelieae* and that Prof. Choux had also used this name for a Madagascar plant (*Ann. Mus. Colon. Marseille*, 1932, p. 9). *Stapeliopsis* Pillans has therefore priority over *Stapeliopsis* Choux and *Stapeliopsis* Phillips.

In the *Kew Bulletin* (1927, p. 357), *Stapelia Tapscottii* was described by Miss I. C. Verdoorn. We recently had an opportunity of examining living material of this species and find that it should be placed, for the reasons mentioned under Plate 445, in the same genus as the plant described there. As the name *Stapeliopsis* Phillips is not valid we now propose the name *Stultitia* Phillips for the two species. Dr. N. E. Brown is of opinion that the two species we have separated from *Stapelia* should remain in that genus, but a re-examination of the specimens, both of which have a corona different from that of other species of *Stapelia*, appears to us sufficient justification for placing them in a distinct genus.

The original description (*Kew Bull.* 1927, p. 357) of our plant states that the flowers are white. The specimens we have examined sometimes have flowers of a pallid colour.

The synonymy is as follows :—*Stultitia Cooperi* (N. E. Br.) Phillips, comb. nov. [= *Stapelia Cooperi* N. E. Br.; *Stape-*

*liopsis Cooperi* (N. E. Br.) Phillips], *Stultitia Tapscottii* (Verdoorn) Phillips [= *Stapelia Tapscottii* Verdoorn.]

Our present plant differs from *Stultitia Cooperi* (see Plate 445) in the structure of the corona; the inner corona being long subulate and subclavate at the apices. We are indebted to Mr. Eugene Marais for the specimens, which he cultivated in his garden in Pretoria. The original locality is unknown.

DESCRIPTION :—Plants up to 12 cm. high. *Stems* branched, with long conical teeth up to 2 cm. long, glabrous; each tooth bearing 2 minute lateral teeth. *Flowers* in groups of 3 or 4. *Pedicel* .5–1.2 cm. long, glabrous. *Bud* subglobose. *Flowers* 5 cm. in diam., when fully expanded, reddish with raised white markings. *Sepals* 7 mm. long, lanceolate, acute. *Corolla-lobes* 2 cm. long, 1.1 cm. broad at the base, ovate, subacuminate, with a few scattered vibratile clavate hairs; disk with a slightly raised annulus 1 cm. in diam. *Outer corona* basin-shaped; lobes almost oblong, bifid; inner corona-lobes produced into long subulate processes, subclavate at the apex, broadened at the base, with a small dorsal hump at the base of the broadened portion. (National Herbarium, Pretoria, No. 15,264.)

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PLATE 520.—Fig. 1, section through corolla; Fig. 2, corona seen from above; Fig. 3, side view of corona.

F.P.S.A., 1933.

# INDEX TO VOLUME XIII.

|                                      | PLATE |
|--------------------------------------|-------|
| ARCTOTIS ACAULIS . . . . .           | 501   |
| ASPARAGUS COOPERI . . . . .          | 503   |
| BULBINE LATIFOLIA . . . . .          | 489   |
| CARALLUMA GRANDIDENS . . . . .       | 518   |
| CARALLUMA TESSELLATA . . . . .       | 504   |
| CEROPEGIA CIMICIODORA . . . . .      | 488   |
| CEROPEGIA SETIFERA . . . . .         | 519   |
| CONOPHYTUM COLORANS . . . . .        | 509   |
| CONOPHYTUM EDWARDSIAE . . . . .      | 509   |
| CONOPHYTUM ORNATUM . . . . .         | 510   |
| CONOPHYTUM VANZYLII . . . . .        | 510   |
| DIPLACORCHIS TENUIOR . . . . .       | 494   |
| DISA GALPINII . . . . .              | 497   |
| DISA RHODANTHA . . . . .             | 491   |
| DISA SAXICOLA . . . . .              | 495   |
| DISPERIS DISAEFORMIS . . . . .       | 499   |
| EULOPHIA BARBATA . . . . .           | 498   |
| EULOPHIA MACOWANI . . . . .          | 496   |
| EULOPHIA PRETORIENSIS . . . . .      | 500   |
| EUPHORBIA LYDENBURGENSIS . . . . .   | 486   |
| HELICHRYSUM SUMMO-MONTANUM . . . . . | 483   |
| HIBISCUS DIVERSIFOLIUS . . . . .     | 514   |
| HOMERIA LILACINA . . . . .           | 502   |
| LACHENALIA COMPTONII . . . . .       | 507   |
| LACHENALIA ELEGANS . . . . .         | 508   |
| LACHENALIA GILLETII . . . . .        | 506   |
| LACHENALIA SALTERI . . . . .         | 505   |
| LISSOCHILUS SANDERSONI . . . . .     | 493   |
| LYCIUM SALINICOLA . . . . .          | 487   |
| NERINE FALCATA . . . . .             | 511   |
| ORPHIUM FRUTESCENS . . . . .         | 490   |
| PELARGONIUM TYSONII . . . . .        | 512   |
| PYCNOSTACHYS PURPURASCENS . . . . .  | 513   |
| RAPHIONACME GALPINII . . . . .       | 516   |
| SATYRIUM OCELLATUM . . . . .         | 492   |
| SERRURIA FLORIDA . . . . .           | 481   |
| SERRURIA ROSEA . . . . .             | 482   |
| STULTITIA TAPSCOTTII . . . . .       | 520   |
| SUTERA ALBIFLORA . . . . .           | 485   |
| SUTERA AURANTIACA . . . . .          | 484   |
| TINNEA GALPINI . . . . .             | 517   |
| UTRICULARIA PREHENSILIS . . . . .    | 515   |









